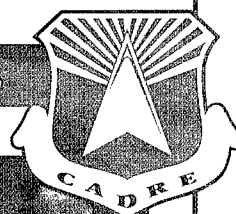


THE CADRE PAPERS



DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited



The Politics of Coercion

Toward a Theory of Coercive Airpower
for Post-Cold War Conflict

Lt Col Ellwood P. "Skip" Hinman IV, USAF

After you have read this research report, please give us your frank opinion on the contents. All comments—large or small, complimentary or caustic—will be appreciated. Mail them to CADRE/AR, Building 1400, 401 Chennault Circle, Maxwell AFB AL 36112-6428.



The Politics of Coercion

Hinman

***Toward a Theory of Coercive Airpower
for Post-Cold War Conflict***

20021030 074

Thank you for your assistance.

**COLLEGE OF AEROSPACE DOCTRINE,
RESEARCH AND EDUCATION**

AIR UNIVERSITY



**The Politics of Coercion
*Toward a Theory of Coercive Airpower
for Post-Cold War Conflict***

ELLWOOD P. "SKIP" HINMAN IV
Lieutenant Colonel, USAF

CADRE Paper No. 14

Air University Press
Maxwell Air Force Base, Alabama 36112-6615

August 2002

Air University Library Cataloging Data

Hinman, Ellwood P., 1966-

The politics of coercion : toward a theory of coercive airpower for post-cold war conflict / Ellwood P. "Skip" Hinman IV.

p. cm. - (CADRE paper, ISSN 1537-3371 ; 14).

Includes bibliographical references.

Contents: Introduction - Coercion theory and the post-cold war era - A new theory for a new era - The coercion hybrid and post-cold war conflict - Politics, doctrine, and the future of American airpower.

ISBN 1-58566-109-0

1. Air power—United States—Political aspects. 2. Strategy. 3. Limited war. I. Title. II. Series.

358.424—dc21

Disclaimer

Opinions, conclusions, and recommendations expressed or implied within are solely those of the author and do not necessarily represent the views of Air University, the United States Air Force, the Department of Defense, or any other US government agency. Cleared for public release: distribution unlimited.

This CADRE Paper and others in the series are available electronically at the AU Press Web site <http://aupress.maxwell.af.mil> and the Air University Research Web site <http://research.maxwell.af.mil>.

CADRE Papers

CADRE Papers are occasional publications sponsored by the Airpower Research Institute of Air University's College of Aerospace Doctrine, Research and Education (CADRE). Dedicated to promoting the understanding of air and space power theory and application, these studies are published by Air University Press and broadly distributed to the US Air Force, the Department of Defense and other governmental organizations, leading scholars, selected institutions of higher learning, public-policy institutes, and the media.

All military members and civilian employees assigned to Air University are invited to contribute unclassified manuscripts, which should deal with air and/or space power history, theory, doctrine or strategy, or with joint or combined service matters bearing on the application of air and/or space power.

Authors should submit three copies of a double-spaced, typed manuscript and an electronic version of the manuscript on 3.5-inch disks along with a brief (200-word maximum) abstract. The electronic file should be compatible with Microsoft Windows and Microsoft Word—Air University Press uses Word as its standard word-processing program.

Please send inquiries or comments to
Chief of Research
Airpower Research Institute
CADRE
401 Chennault Circle
Maxwell AFB AL 36112-6428
Tel: (334) 953-5508
DSN 493-5508
Fax: (334) 953-6739
DSN 493-6739
E-mail: daniel.mortensen@maxwell.af.mil

Contents

<i>Chapter</i>		<i>Page</i>
	DISCLAIMER	ii
	FOREWORD	vii
	ABOUT THE AUTHOR	ix
1	INTRODUCTION	1
	What Is a Theory of Coercive Airpower?	2
	The Attributes of Post-Cold War Conflict	4
	Notes	6
2	COERCION THEORY AND THE POST-COLD WAR ERA	9
	Punishment-Based Coercion: A Theory for Total War	9
	Risk-Based Coercion: A Theory for Limited War	15
	Decapitation-Based Coercion: Echoes of the Past	19
	Denial-Based Coercion: Too Much of a Good Thing	24
	Notes	28
3	A NEW THEORY FOR A NEW ERA	31
	Phase One	31
	Phase Two	36
	Phase Three	37
	Limited, Nonprotracted War and the Coercion Hybrid	38
	The Coercion Hybrid and the Politically Restrained Nature of Post-Cold War Conflict	39
	The Coercion Hybrid and the Better State of Peace	41
	The Escalatory Nature of the Coercion Hybrid	42
	Conclusion	43
	Notes	44

<i>Chapter</i>		<i>Page</i>
4	THE COERCION HYBRID AND POST-COLD WAR CONFLICT	45
	Operation Desert Storm	45
	Operation Deliberate Force	48
	Operation Allied Force	50
	Conclusion	54
	Notes	54
5	POLITICS, DOCTRINE, AND THE FUTURE OF AMERICAN AIRPOWER	57
	Recommendations	59
	Conclusion	61
	Notes	62
	BIBLIOGRAPHY	65

Illustration

<i>Figure</i>		
1	The Coercion Hybrid	32

Table

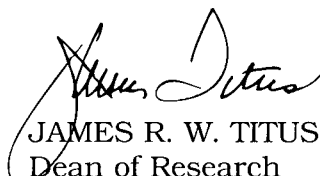
1	Objectives of Allied Force	51
---	--------------------------------------	----

Foreword

In *The Politics of Coercion: Toward a Theory of Coercive Airpower for Post-Cold War Conflict*, Lt Col Ellwood P. “Skip” Hinman IV confronts an issue of high interest to airmen and policy makers alike: What does coercion theory suggest about the use of airpower in the early twenty-first century? More specifically, Colonel Hinman seeks to determine whether any of the existing theories of coercion can stand alone as a coherent, substantive, and codified approach to airpower employment. Framing his analysis on three key attributes of conflict in the post-Cold War era—limited, nonprotracted war; political restraint; and the importance of a better state of peace—Hinman examines the contemporary applicability of the four major theories of coercive airpower: punishment, risk, decapitation, and denial.

For reasons explained in the pages that follow, Hinman finds limitations in each of the prevailing theories of coercion. In proposing a new construct that more adequately meets the needs of post-Cold War conflict, the author recommends a three-phase “hybrid approach” to coercion that draws on the strengths and minimizes the weaknesses of existing theory. Arguing that aspects of this hybrid approach were evident in the employment of airpower in Operations Desert Storm, Deliberate Force, and Allied Force, Hinman contends that his hybrid theory of coercion is uniquely well suited for the unsettled geopolitical landscape of the post-Cold War era.

The Politics of Coercion: Toward a Theory of Coercive Airpower for Post-Cold War Conflict originally was written as a master’s thesis for Air University’s School of Advanced Airpower Studies. The College of Aerospace Doctrine, Research and Education is pleased to publish this study as a CADRE Paper and thereby make it available to a wider audience within the US Air Force and beyond.



JAMES R. W. TITUS
Dean of Research
Air University

About the Author

Lt Col Skip Hinman is chief of Seventh Air Force Strategy, Osan Air Base, Republic of Korea. A graduate of the School of Advanced Airpower Studies at Maxwell Air Force Base, Alabama, he is a senior Air Force pilot with 2,600 flying hours in the F-117, A-10, T-38, and T-37 aircraft. He has flown F-117s and A-10s in numerous contingency operations, including Desert Storm, Provide Comfort, and Southern Watch. During Operation Allied Force, Colonel Hinman flew several combat missions in the F-117. As mission commander, he planned and led strike packages of up to 25 aircraft deep into the most heavily defended target areas in Serbia. His decorations include the Distinguished Flying Cross, the Meritorious Service Medal with one oak-leaf cluster, the Air Medal, the Aerial Achievement Medal with three oak-leaf clusters, and the Air Force Commendation Medal. He has published articles in *Strategic Review*, *Airpower History*, *Aerospace Power Journal*, and various other periodicals. Colonel Hinman and his wife, Jennifer, have three sons—Parker, Hunter, and Chase.

Chapter 1

Introduction

We must continue to seek new, revolutionary, and imaginative ways to employ air and space power and continue to provide the United States with even more capability to pursue national and military objectives with reduced risk and cost in casualties, resources, and commitment.

—Air Force Doctrine Document (AFDD) 1,
Air Force Basic Doctrine, September 1997

Since the two world wars, the United States has witnessed a very clear shift from the total wars of the first half of the twentieth century to the limited wars that followed. The final decade of the last century experienced a similar move from familiar Cold War conflicts to the very different conflicts of the post-Cold War era. But no such shift has occurred in American airpower theory and doctrine. A Cold War mind-set, rooted in assumptions about total war dating from the pre-World War II period, still controls current theoretical and doctrinal thought regarding airpower. The US airpower community must remain prepared to fight conflicts that approach total war and cannot wholly discount the possibility of nuclear war. Regrettably, though, the traditional preoccupation with such wars has left airmen doctrinally ill prepared for the limited post-Cold War conflicts that likely await America in the twenty-first century.

In light of this problem, this paper explores the following question: What does coercion theory suggest about the use of airpower in post-Cold War conflict? It seeks to determine whether any of the existing theories of coercion can stand alone as adequately coherent, substantive, and codified approaches. If analysis reveals that existing constructs fail the test, the study investigates the potential content and applicability of a new theory for post-Cold War coercive airpower.

The paper includes five chapters. After presenting a basic discussion of theory, coercion, and airpower, the current chapter develops attributes of post-Cold War conflict. Chapter 2 uses these characteristics to analyze the compatibility of ex-

isting models of coercive airpower. Chapter 3 develops an airpower theory better suited to the limited conflicts of the post-Cold War era. Chapter 4 tests that theory's applicability in three post-Cold War conflicts involving the United States: Operations Desert Storm, Deliberate Force, and Allied Force. The final chapter explores the implications and considerations related to the findings embodied elsewhere in the paper.

What Is a Theory of Coercive Airpower?

Prior to embarking on such a task, one should discuss several definitions and assumptions. At the outset, this section clarifies what is meant by a *theory of coercive airpower* by separately analyzing theory, coercion, and airpower.

A Theory of Coercive Airpower

This paper seeks to arrive at a theory of coercive airpower for the post-Cold War era. In *Military Strategy: A General Theory of Power Control*, J. C. Wylie defines theory as "an idea, a scheme, a pattern of relationships designed to account for events that have already happened with the expectation that this pattern will allow us to predict or foresee what will come to pass when comparable events take place in the future."¹ Theory, then, is informed by past experience with the goal of accurately guiding future experience. However, Carl von Clausewitz's caution about the limitations of theory is especially pertinent: "Theory exists so that one need not start afresh each time sorting out the material and plowing through it, but will find it ready to hand and in good order. It is meant to educate the mind of the future commander, or, more accurately, to guide him in his self-education, *not to accompany him to the battlefield*; just as a wise teacher guides and stimulates a young man's intellectual development, but is careful not to lead him by the hand for the rest of his life" (emphasis added).²

A Theory of Coercive Airpower

This paper assumes that one uses airpower to change an adversary's behavior—in line with Clausewitz's dictum that

war is fundamentally “an act of force to compel our enemy to do our will.”³ Additionally, one should note the distinction between coercion and pure destruction or brute force. Whereas the latter aims to completely destroy the enemy’s capability to resist, coercion seeks to persuade him before the destruction is complete. The two concepts, however, are not mutually exclusive. A nation can in fact coerce in a manner that closely resembles brute force, so long as the goal is to change the adversary’s behavior rather than simply destroy him.

One should also note that this paper discusses coercion in war—not the concept of coercive diplomacy, which entails “use of a threat of punishment and/or limited force short of full-scale military operations”; here, coercion refers to the application of threatened force in the context of actual war.⁴ At its core, coercive diplomacy is political, while coercion is fundamentally military in nature. Similarly, this study emphasizes fighting wars, not deterring them. In *Arms and Influence*, Thomas C. Schelling divides coercion into the two separate concepts of deterrence and compellence.⁵ Although his term *compellence* closely approximates the meaning of *coercion* as used in this paper, much of his theory deals with the deterrent element of coercion. As Schelling postulates, a good part of coercion does indeed involve avoiding war. The theory of coercion addressed here, however, aims to assist the war fighter if deterrence fails.

A Theory of Coercive Airpower

One must explore three aspects of the term *airpower* as it appears in this theory. First, as RAND analyst Benjamin Lambeth appropriately attests in *The Transformation of American Air Power*, “Air power, properly understood, knows no color of uniform.”⁶ As such, the concept of airpower presented in this paper connotes the vital contributions made by *all* services to the joint air effort.

Second, this study considers only airpower that operates separately from America’s surface forces—not the combined-arms operations, important though they may be, that feature airpower in close coordination with land and maritime components. The three post-Cold War conflicts discussed here—Desert Storm, Deliberate Force, and Allied Force—featured varying

degrees of surface action consonant with air operations. The Gulf War, for example, involved over 500,000 US and coalition ground troops. Airpower, however, did operate independently for 39 days before the ground war began. During Deliberate Force, the US military had minimal surface forces in-theater, but a fairly sizable number from other countries participated on the ground. In Allied Force, the North Atlantic Treaty Organization (NATO) did not employ ground forces, but the Kosovo Liberation Army did have some "friendly" troops in action. In a future war, then, the United States may use ground forces in conjunction with the air war, subsequent to it, or not at all. The theory espoused herein, although applicable to each scenario, does not address airpower in direct support of such surface action.

Third, Col Phillip S. Meilinger, USAF, retired, proposes that "in essence, airpower is targeting; targeting is intelligence; and intelligence is analyzing the effects of air operations."⁷ On the practical level, it is fair, as he suggests, to reduce airpower to targets and their effects, with intelligence as the intervening variable: "Indeed, a skeptic could argue that a history of air strategy is a history of the search for the single, perfect target."⁸ Recently, however, theorists have rightly begun to look beyond this traditional target-centered view to a more conceptual plane where one achieves political aims and desired effects without simply killing people and breaking things. Although their cause is noble and worthy of further exploration, for the most part it remains beyond the scope of this paper. Instead, in the text that follows, one achieves political objectives and military effects quite simply by attacking targets on the ground with weapons from the air. As will become evident, though, the same considerations about the political realities of modern war that drive these recent theoretical musings are prevalent throughout this study and weigh heavily upon the new theory for post-Cold War conflict.

The Attributes of Post-Cold War Conflict

Clausewitz observed that in the history of war, "every age had its own kind of war, its own limiting conditions, and its

own peculiar preconceptions."⁹ Accordingly, the end of the Cold War marked the coming of a new age. Three important attributes characterize conflict in this post-Cold War era: (1) limited, non-protracted war; (2) political restraint; and (3) the importance of the better state of peace.

Bearing no resemblance to either total or nuclear war, America's conflicts in the last decade of the twentieth century were decidedly limited in both their aim and scope as well as conventional in nature. Additionally, they have been brief—measured in days and weeks rather than months and years.¹⁰ Desert Storm, for example, was a 43-day war. Deliberate Force lasted only 16 days, including a five-day bombing pause. The air war over Serbia—the longest US war since the end of the Cold War—continued for only 78 days. None of this is intended to suggest that the next war will be a short one. It does suggest, however, that an airpower theory for the post-Cold War era must not rest on an inappropriate assumption of protracted war.

These wars of the post-Cold War era have also featured differing but prevalent levels of political restraint on military operations. As Jack Snyder explains, unrestrained operations are "least likely . . . in the case of limited or defensive wars, where the whole point of fighting is to negotiate a diplomatic solution."¹¹ Although political constraints have occurred in all of America's limited wars, they were part and parcel of such conflicts in the last decade of the twentieth century. In a RAND report prepared for the US Air Force, Stephen T. Hosmer concludes that the trend will continue: "U.S. concern to minimize civilian casualties and other collateral damage has increased over time and will probably constrain severely both the methods and targets of air attacks in future conflicts."¹² In sum, post-Cold War conflict, has been—and arguably will continue to be—limited, nonprotracted war that, by its very nature, is politically restrained.

Last, the limited nature of post-Cold War conflict points to the salience of the better state of peace. A clear vision of the desired end state is important in all wars but crucial to post-Cold War conflict. B. H. Liddell Hart established its significance in any war: "The object in war is a better state of peace—even if only from your own point of view. Hence it is essential to conduct war with constant regard to the peace you desire."¹³ In total wars that end

with brute-force victory and unconditional surrender, such as the world wars of Liddell Hart's time, the victors can impose whatever peace they desire. However, the coercing nation in a limited war has no such option after the fact. Consequently, one must integrate the better state of peace into the war effort itself. Michael Howard captured this idea in a Harmon Lecture at the US Air Force Academy in 1988: "In making war, in short, it is necessary constantly to be thinking how to make peace. The two activities can never properly be separated."¹⁴ Later, Howard narrowed his focus to war in the modern era: "In a more real sense than ever before, one is making war and peace simultaneously."¹⁵ Having a clear conception of the peace one desires, then, becomes more difficult and, consequently, more important in the post-Cold War era than ever before. In summary, this paper defines post-Cold War conflict as limited, nonprotracted war that features appreciable levels of political restraint and demands increased emphasis on the better state of peace.

Notes

1. J. C. Wylie, *Military Strategy: A General Theory of Power Control*, Classics of Sea Power (1967; reprint, Annapolis: Naval Institute Press, 1989), 96.
2. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1976), 141.
3. *Ibid.*, 75.
4. Peter V. Jakobsen, "The Strategy of Coercive Diplomacy: Refining Existing Theory to Post-Cold War Realities," in *Strategic Coercion: Concepts and Cases*, ed. Lawrence Freedman (Oxford: Oxford University Press, 1998), 64.
5. Thomas C. Schelling, *Arms and Influence* (New Haven, Conn.: Yale University Press, 1966), 70-72.
6. Benjamin S. Lambeth, *The Transformation of American Air Power*, Cornell Studies in Security Affairs (Ithaca, N.Y.: Cornell University Press, 2000), 10.
7. Col Phillip S. Meilinger, "Ten Propositions Regarding Airpower," *Airpower Journal* 10, no. 1 (Spring 1996): 58.
8. *Ibid.*, 58-59.
9. Clausewitz, 585.
10. Enforcing the air-exclusion "no-fly" zones that have followed these conflicts has proven quite a protracted endeavor. Although they are very important military operations that deserve serious consideration, this paper does not consider them part of the wars that preceded them.
11. Jack Snyder, "Civil Military Relations and the Cult of the Offensive, 1914 and 1984," *International Security* 9, no. 1 (Summer 1984): 121.
12. Stephen T. Hosmer, *Psychological Effects of U.S. Air Operations in Four Wars, 1941-1991: Lessons for U.S. Commanders* (Santa Monica, Calif.: RAND, 1996), xx.

HINMAN

13. B. H. Liddell Hart, *Strategy* (New York: Praeger Publishers, Inc., 1967), 338.

14. Michael Howard, "Strategy and Policy in Twentieth-Century Warfare," in *The Harmon Memorial Lectures in Military History, 1959-1987: A Collection of the First Thirty Harmon Lectures Given at the United States Air Force Academy*, ed. Harry R. Borowski (Washington, D.C.: Office of Air Force History, 1988), 354.

15. *Ibid.*, 355.

Chapter 2

Coercion Theory and the Post-Cold War Era

There are now better ways of thinking about air power and its potential as a tool of strategy than by seeking guidance from the now-antiquarian writings of the early-20th-century air power classicists.

—Benjamin Lambeth

In general terms, one can group the major existing coercion theories into four separate categories: punishment, risk, decapitation, and denial. Punishment as a theory of coercive airpower has its roots in the interwar period. Risk-based coercion, which came later, is normally attributed to the writings of Thomas Schelling. John Warden espouses the more contemporary decapitation theory, and recent denial-based coercion is most often associated with Robert Pape. Although each approach has value, the utility of any single one as a stand-alone theory for the conduct of post-Cold War conflict remains questionable.

Punishment-Based Coercion: A Theory for Total War

The first substantive theories of coercive airpower surfaced during the period between the world wars. Two of the most prevalent interwar theories of coercion were espoused by Italian airpower advocate Giulio Douhet and the American airmen at the Air Corps Tactical School (ACTS). Both approaches were based to a large extent on the concept of punishment. One should note at the outset that these early airpower pioneers developed their constructs in the aftermath of one total war and in preparation for the next. As such, they couched both theories in a clear and unambiguous context of total war; consequently, they have proven largely incompatible with post-Cold War conflict.

Giulio Douhet

In the 1920s, Douhet proposed a theory of airpower (later published in his *The Command of the Air*, 1942) that most closely approximated punishment in its purest form. Such punishment aims to coerce an adversary to change his behavior by shattering civilian morale with direct attacks on the enemy's urban areas and population centers. Dr. Karl Mueller defines punishment in more general terms as "the use of force to change the adversary's policy without affecting its abilities."¹ At the opposing end of the coercion continuum lies the concept of denial, which attacks the adversary's capability to resist, normally by directly targeting his armed forces. While denial looks to targets of a military nature, punishment-based coercion almost exclusively attacks civilian sites.

By advocating the targeting of enemy cities with highly destructive bombs, Douhet hoped that a fearful, demoralized population would either demand capitulation or revolt against its own obstinate government. He arrived at a total-war approach considered controversial in his own time and obviously incompatible with the politically restrained nature of limited war in the modern era. Ironically, if US leaders targeted civilians today in the manner Douhet suggested, they would be far more likely to spark an uprising in the United States than in the population under attack. Not surprisingly, Hosmer concludes that "in future conflicts, humanitarian considerations are likely to prohibit even limited direct attacks on civilian populations."²

However, when Mark Conversino boldly asserts that "Douhet is dead, literally and figuratively," he is overstating the point.³ Although much of Douhet's theory is now passé, his concept of "command of the air" is very much alive in contemporary airpower theory. Interestingly, command of the air added an important element of denial to a coercion theory otherwise dominated by punishment. For Douhet, bombing enemy airfields was a prerequisite to bombing cities: "I have always maintained that the essential purpose of an Air Force is to conquer the command of the air by first wiping out the enemy's air forces. This, then, would seem to be always the first objective of an Independent Air Force."⁴ But no semblance

of denial existed beyond this air superiority campaign. In fact, Douhet, who allows only for bombardment, pursuit, and reconnaissance aircraft, labels missions not directly associated with strategic bombing as “auxiliary aviation,” viewing them as “worthless, superfluous, harmful.”⁵ In short, Douhet’s style of coercion clearly has no place for the denial-based targeting of fielded forces.

In Douhet’s approach, success clearly depends upon the coercing nation’s capacity to bomb the enemy with massive, overwhelming, and terrifying force. In his time, though, technology restricted the attainment of that goal. The bomber was by no means as survivable as he had hoped his “battleplane” would be. Nor did the destructive capacity of the conventional bombs of the age meet his expectations. Consequently, his “independent air force” could not pack the punch he thought necessary for airpower to be decisive. The advent of stealth, precision-guided munitions, and sophisticated capabilities for suppressing air defenses, however, has largely removed the technological limitations. Interestingly, modern technology also enables airpower to coerce an adversary in politically palatable ways that Douhet did not envision.

The Air Corps Tactical School

In the 1930s, US airmen at ACTS developed the industrial-web theory—an alternative to Douhet’s approach. Also a punishment-based coercive strategy, this approach opts to attack the population *indirectly* by targeting critical nodes of the adversary’s industrial infrastructure. The goal of this economic warfare is collapse of the enemy’s economic system and, ultimately, of the civil society as a whole. Presumably, such a strategy would break civilian morale, convincing the adversary’s government to surrender.

Like Douhet’s construct, the industrial-web theory makes no provision for directly attacking the enemy’s fielded forces. The ACTS strategy, however, includes a sizable element of denial, based on the assumption that destruction of carefully selected economic targets will significantly decrease the enemy’s war-making capability and reduce the effectiveness of the civilian workforce. Consequently, if the industrial-web theory

failed to coerce the adversary to surrender, ACTS strategists postulated that it would at the very least make a contribution to a brute-force victory. In a lecture at ACTS in 1939, Maj Muir S. Fairchild lauded both the denial and punishment aspects of the approach: "This method of attack had the great virtue of reducing the capacity for war of the hostile nation, and of applying pressure to the population both at the same time and with equal efficiency and effectiveness."⁶ Although less morally repugnant than Douhet's approach, the massive bombing of economic and infrastructure targets in accordance with the ACTS theory does bring the coercing nation's morality into question. Lt Gen Ira Eaker expressed this concern in a letter to Lt Gen Carl Spaatz in January 1945: "We should never allow the history of this war to convict us of throwing the strategic bomber at the man in the street."⁷ Douhet advocated precisely that, and the industrial-web theory as well as the context of total war eventually led to the same result.

Punishment-Based Coercion and Post-Cold War Conflict

Punishment as a stand-alone theory of coercive airpower is largely incompatible with conflicts of the post-Cold War era. Several assumptions in the years prior to World War II perhaps were appropriate in their own time but clearly have no application today. First, the theorists who advocated punishment-based coercion clearly assumed a total war. Second, they believed that the war would not include any prohibitive levels of political restraint. Third, the total-war requirement for unconditional surrender would allow the victor to dictate the terms of peace. These assumptions led to a punishment-based coercion theory incompatible with the three attributes of post-Cold War conflict mentioned in chapter 1: limited, nonprotracted war; political restraint; and the increased importance of the better state of peace.

The fundamental precondition for attacking the economic infrastructure of the enemy nation—total war—clearly does not exist in the context of limited war. Interwar theorists reasoned that, if the entire nation were at war, all targets were military targets. Douhet took this logic a step further by posit-

ing that there were in fact no noncombatants in a total war.⁸ These assumptions, questionable in their own time, clearly do not apply to the limited wars of today.

For punishment-based economic warfare to succeed, the war must be far more protracted than US conflicts since the end of the Cold War. As Pape points out in *Bombing to Win*, "Although bombing economic structures can weaken an opponent's military capabilities in long wars, the first effects are generally felt by civilians."⁹ The limited conflicts of the post-Cold War era are clearly not the kind of lengthy wars required for economic exhaustion to take effect. In *The Power of Nations*, Klaus Knorr furthers Pape's basic argument: "Notwithstanding the large-scale practice of economic warfare by economic measures in World Wars I and II, its utility in the future is uncertain, but in all likelihood, it is slim if not nil. . . . Economic warfare makes sense only in the event of a protracted war of attrition. Economic warfare is a game of big powers waging prolonged war against big powers."¹⁰ Consequently, economic warfare patterned after the industrial-web theory would not initially be appropriate in a post-Cold War conflict. It may become appropriate, however, if the conflict experiences fundamental change and becomes more protracted.

Pape's observation also highlights the second disconnect between punishment and post-Cold War conflict—its incompatibility with political restraint. Even if a punishment-based targeting strategy has the desired effect, it normally proves more damaging to civilians than to their military counterparts. Douhet's desire to bomb population centers, of course, is clearly out of the question. Although economic targeting is a somewhat more subtle approach, its expressed intent—causing the suffering and privation of civilian populations—is also foreign to the politically restrained nature of post-Cold War conflict. Although an economic-warfare strategy presumably does not attack civilians directly, targeting a society's economic infrastructure may *indirectly* lead to large numbers of civilian deaths. For example, coalition air attacks on Iraq's electrical power grid during the Gulf War led to contamination of the water supply and a subsequent cholera outbreak that killed an estimated 111,000 Iraqi citizens. In fact, one analyst

at the Massachusetts Institute of Technology contends that “poor health caused by infrastructure damage killed thirty times more civilians than did direct war effects.”¹¹ Conrad Crane captures the fundamental disconnect between a total-war punishment theory and the political context of limited war: “The same destructive power that makes airpower an effective military tool by punishing them [enemies] for transgressions, can also make its use unpalatable to nations suspicious of American power or sensitive to civilian suffering. The military and political utility of the application of airpower must always be balanced against its diplomatic repercussions and the way its results will be perceived by world opinion.”¹²

Add to this the effects of accidental bombing. Experience has clearly shown that even the careful bombing of infrastructure targets in proximity to urban areas inevitably results in civilian casualties and collateral damage. Economic warfare may become permissible when other coercive tools miss the mark, but it is highly unlikely that civilian policy makers will allow the implementation of a punishment strategy at the outbreak of a politically restrained war.

Third, beyond its incompatibility with political restraint, punishment-based coercion finds itself equally at odds with the desired postwar environment that frequently accompanies post-Cold War conflict. Perhaps the most favorable aftermath of a limited war is minimal destruction of civilian targets paired with severe degradation of the enemy’s armed forces. Liddell Hart called for “the least possible permanent injury, for the enemy of to-day is the customer of the morrow and the ally of the future.”¹³ Accordingly, a coercive strategy should limit the adversary’s capacity to threaten his neighbors in the future yet allow his socioeconomic system to return to a relatively normal state in a fairly expeditious manner.

The weakness of punishment-based coercion is that it fails on both counts. Put simply, the theory aims to destroy the enemy’s society in order to save it. Liddell Hart cites “the extremely detrimental effect of industrial bombing on the postwar situation. Beyond the immense scale of devastation, hard to repair, are the less obvious but probably more lasting social and moral effects.”¹⁴ Furthermore, although punishment

wrecks the civil infrastructure, it leaves the enemy's military strength largely intact. As Mueller observes, "Pure punishment strategies do nothing to help the coercer if coercion fails."¹⁵ The belligerent's armed forces can continue to resist during the current conflict and remain a viable threat in the future.

Risk-Based Coercion: A Theory for Limited War

The assumption of total war that preceded World War II persisted in its aftermath. The advent of nuclear weapons and the coming of the Cold War fitted nicely into this preexisting mindset. In spite of the lessons of the limited war in Korea, total war, with its new nuclear dimension, remained uppermost in the minds of most US strategists and policy makers during the 1950s. The Air Force recognized the possibility of limited war but was reluctant to make any appreciable shift in emphasis. The 1959 version of Air Force Manual 1-2, *United States Air Force Basic Doctrine*, submitted that "the best preparation for limited war is proper preparation for general war."¹⁶ But the two are not the same. On the contrary, in a 1957 RAND report, Robert Johnson postulates a vitally important distinction: "It seems clear to many operators and students of the problem that the targeting system and the target selection and priority criteria which apply to general war may not apply to limited war."¹⁷ He argues that a "conscientious following of certain underlying assumptions and certain clear policies as to priority of mission" stand in the way of the service's preparedness for future limited wars. "Honest recognition that this is the case, however, is required before a reasonable approach to the small war problem can be made."¹⁸

While the Air Force remained preoccupied with total war, the academic community began searching for theories of coercion more compatible with the more likely limited conflicts. In *Arms and Influence*, Schelling offers a conceptual alternative to punishment that, at first glance, seems to avoid the pitfalls of punishment as a stand-alone coercion approach to limited war. A closer look at Schelling's risk-based coercion theory,

however, reveals some of its own shortfalls in the context of post-Cold War conflict. In fact, the practical experience of America's war in Vietnam showed how ugly risk theory could get when misapplied.

The Good

Schelling proposes coercing an adversary by holding what the enemy values at risk, not by bombing him in wholesale fashion. Threatening the massive use of force would presumably obviate the need to actually use it: "Coercion depends more on the threat of what is yet to come than on damage already done."¹⁹ Punishment uses a significant level of military force at the outset of hostilities, but risk uses only the minimum force required to instill in the adversary a fear of future attacks and thus compel him to comply. Consequently, risk-based coercion is more compatible with post-Cold War conflict because, in an ideal case, the use of only minimal military force would significantly reduce the chance of civilian casualties, collateral damage, and the loss of public support. If risk is successful, the targets that most worry the politicians would not be attacked. Mueller submits that "a risk strategy is simply a gradual, escalating punishment strategy, in which the coercer seeks to instill great fear of future civilian punishment without actually having to inflict extensive damage."²⁰ Accordingly, a successful risk-based approach would favorably shape the postwar environment by avoiding wanton destruction to the enemy's economic infrastructure and population centers.

The Bad

Unfortunately, if risk fails to coerce before the bombing begins, the coercing nation has to make good on its threats, often choosing to attack the same targets—with the same unfavorable effects—as a punishment strategy. Consequently, risk in practice can invite the same friction found between punishment and political restraint. If the coercer determines that the adversary places the greatest value in his economic strength, then the vision of the desired end state comes into question as well. When the adversary chooses to resist this

threat of military force, the coercing nation following Schelling's formula would likely begin punitive bombardment of the enemy's civil infrastructure. If initially unsuccessful, the same concept that at first shielded the society from extensive damage would later invite destruction. To his credit, Schelling correctly assesses that "pain and shock, loss and grief, privation and horror are always in some degree, sometimes in terrible degree, among the results of warfare; but in traditional military science they are incidental, they are not the object."²¹ By having the coercing nation threaten such consequences, Schelling hopes they will not become necessary. Unfortunately, the real object of that warfare—the better state of peace—will suffer egregiously if those threats become reality.

Against an enemy that values economic power, Schelling's countervalue construct could lead to an unfortunate preoccupation with punishment-based targets. In this case, risk as a stand-alone coercive strategy wholly misses the wartime opportunity to reduce the enemy's military capacity to act unfavorably in the future, even if successful as a coercive tool. Additionally, such an approach makes no contribution to a brute-force victory in the event that risk fails to coerce an obstinate foe. Schelling assesses that "the hurting does no good directly; it can work only indirectly."²² On the contrary, the hurting, if directed at military targets, does plenty of good. It degrades the adversary's future capacity to threaten his neighbors and moves the coercing nation one step closer to a brute-force victory.

One should note, however, that Schelling does allow for the possibility that an adversary would in fact value his armed forces rather than his economic strength. In this case, Schelling's approach aims to coerce the enemy by attacking his military strength in a more direct fashion. Such a strategy is far more in line with the politically restrained nature of post-Cold War conflict than the punishment-centered alternative. It also favorably reduces long-term damage to the adversary's economic base. However, Schelling recommends the same risk-based, gradualist approach against these military target sets. In the context of nonprotracted conflict, such incremental targeting of the enemy's fielded forces will not likely bring about a suf-

ficiently significant reduction in his future offensive capacity. Nor will it sufficiently enable a brute-force victory if risk-based coercion fails.

The Ugly: The Practical Experience of Vietnam

Most people would argue that Schelling's construct failed when put to the test in Southeast Asia. Vietnam, however, represents not so much a failure of the concept as the misapplication of risk-based coercion theory. Although the administration of President Lyndon Johnson hoped to follow Schelling's guidelines, gradualism in practice bore little resemblance to risk on paper. In fact, it may not have been Schelling's gradual escalation at all but the president's pattern of escalation and *de-escalation* that led to the failure of the Rolling Thunder campaign. Schelling's concept calls for a methodical and continual increase in pressure; Johnson turned that pressure on only to turn it off again. Whereas risk theory requires the adversary to believe the reality of the threat, one can safely postulate that Johnson's threat of escalation remained less than fully credible. As a result, the North Vietnamese believed that their patience would prevail over any short-lived semblance of US resolve.

Contrary to Johnson's failed approach, Schelling's ideal coercive approach is "one that, once initiated, causes minimal harm if compliance is forthcoming and great harm if compliance is not forthcoming, is consistent with the time schedule of feasible compliance, is beyond recall once initiated, and cannot be stopped by the party that started it but *automatically* stops upon compliance, with all this fully understood by the adversary" (emphasis in original).²³ Conversely, no credible, consistent threat of "great harm" existed throughout the Rolling Thunder campaign, and President Johnson reversed even the limited action he did allow after each implementation. Admittedly, these ideal conditions are quite difficult to fulfill in practice, but the Johnson administration's effort to apply risk theory to the war in Vietnam clearly fell well short of the mark.

By way of comparison, President Richard Nixon's Linebacker campaign differed markedly. Linebacker also followed an incre-

mental pattern in line with the concept of risk, but the intensity continued to increase with little hope of de-escalation. Contrary to Johnson's approach, Nixon's style of gradualism closely approximated Schelling's theory. Interestingly, the operation started with Linebacker I, which attacked military targets and held North Vietnam's capital at risk. Linebacker II's massive attacks on Hanoi, when they came, showed that Nixon's threat of escalation was as painful as it was credible. Although US objectives in 1972 were admittedly less ambitious than in 1968, risk seemed more appropriate when properly applied. Thus, one should not blame the US failure in Vietnam, as a whole, solely on the escalatory aspect of risk theory.²⁴

Even with its drawbacks, risk stands as a vast improvement over the punishment-based coercion theory born in the midst of total war. In stark contrast, Schelling's theory is far more compatible with the politically restrained nature of past and present limited wars. The baggage of Vietnam, however, left the potential applicability of risk-based coercion to modern war largely unexplored.

Decapitation-Based Coercion: Echoes of the Past

Airpower advocates such as John Warden have traditionally held risk theory and the related concept of gradual escalation in deep contempt.²⁵ Consequently, Warden searched the lessons of past wars for a contemporary alternative to Schelling's approach. His decapitation-based coercion theory aims to paralyze and incapacitate the enemy by destroying the maximum number of political leadership, communication, and selected economic targets in the minimum amount of time. According to Warden, the relentless shock, surprise, and simultaneity of the decapitation approach will coerce the enemy leader, who fears for his life and the legitimacy of his regime, to succumb to the coercing nation's demands.²⁶

With this idea, Warden hoped to slay the dragon of Vietnam. In fact, the name Warden chose for the Desert Storm air campaign parodies Vietnam's Rolling Thunder campaign, fashioned after Schelling's construct: "This is what we are going to

call the plan; it's going to be Instant Thunder. . . . This is not your Rolling Thunder. This is real war, and one of the things we want to emphasize right from the beginning is that this is not Vietnam! This is doing it right! This is using air power!"²⁷ Ironically, though, Warden's conceptual antithesis of risk suffers from many of the same shortfalls that plagued his predecessors. In fact, risk is more compatible with the defining attributes of post-Cold War conflict than Warden's less-dated approach.

The Better State of Peace

Although decapitation resembles punishment in some respects, Warden's breed of coercion contains an element of denial. His targeting strategy presumably cuts the leader off from his fielded forces, disrupting their ability to fight. Additionally, as with Douhet, Warden staunchly advocates destroying the enemy's air forces and air defenses. One should note, however, that Warden opposes any compromise of airpower's presumably "strategic" nature by directly targeting the enemy's surface forces.²⁸ Interestingly, Warden thus couples his unambiguous desire to crush the adversary's air forces with an expressed intent to leave his ground army alone.

If one uses Warden's own logic as a baseline, it is somewhat surprising that he would arrive at such a bifurcated approach. For example, he readily accepts the idea that destroying the enemy's will to resist is "tenuous because it is difficult to get at 'will' without destroying either armed forces or economy. In other words, the will to resist collapses when the armed forces no longer can do their job or when the economy no longer can provide essential military—or civilian—services."²⁹ Yet, Warden seems to heed only half of his own advice. Interestingly, his solution to this dilemma involves targeting the enemy's elusive morale by attacking economic and leadership targets exclusively, completely avoiding any direct bombing of his armed forces. Consequently, although decapitation presumably renders the enemy's ground forces largely ineffective during the war, it fails to degrade their long-term capability to threaten their neighbors. As with punishment and risk, then, decapitation-based coercion falls short of a better state of peace.

A glaring weakness in Warden's theory is that it aims to win the war at hand without any real consideration for the peace that follows. Not only does decapitation fail to degrade the enemy's future military capability, but also it attempts to bring the adversary to his knees by covering him in rubble. Warden's focal point is the political leadership, but his approach is reminiscent of punishment in the targets he chooses to attack. In Warden's version, laying waste to the leadership apparatus and the economic infrastructure that links the government to the military presumably leads to capitulation. Yet, in *The Air Campaign: Planning for Combat*, Warden himself recognizes the importance of fighting wars with the ensuing peace in mind: "The purpose of war ought to be to win the peace that follows and all planning and operations should be directly connected with the final objective. Although we pay lip service to this idea, in policy, military, and academic worlds, we easily get lost in a Clausewitzian world where defeat of the enemy military forces becomes an end in itself rather than merely one of a number of possible means to a higher end."³⁰

Liddell Hart, who conceptualized and codified the concept of the better state of peace, quite clearly addresses and arguably refutes the appropriateness of Warden's concerns: "A realization of the drawbacks and evils of taking the civil fabric as the objective does not mean the restoration of 'battle' in the old sense as the objective. The drawbacks of that Clausewitzian formula were amply shown in World War I. In contrast, World War II demonstrated the advantages and new potentialities of indirect, or strategic, action against a *military* objective" (emphasis added).³¹ Warden cannot visualize any choice between his approach and the purely destructive nature of Clausewitz's absolute war. With a stroke of his pen, Liddell Hart responds aptly with a style of coercion that targets the military instead of its political leadership, economy, and civil society.

An astute scholar of war might argue that Warden borrowed Liddell Hart's concept of strategic paralysis for the express purpose of answering the British historian's call for the better state of peace. On the contrary, Liddell Hart's strategic paralysis is far closer to operational interdiction than to Warden's "strategic air campaign." The crux of Liddell Hart's indirect approach lies in

the belief that attacking *military* targets such as communications facilities and military command and control headquarters has a paralyzing effect on the *armed forces* as a whole. He calls for “the paralysis and moral disintegration of the opposing *forces* and of the nations behind” (emphasis added).³² Liddell Hart *indirectly* targets the nation and its leadership by *directly* targeting the adversary’s armed forces and the military’s command, control, and communications. By contrast, Warden leaves the military alone and *directly* attacks the political leadership. His approach takes it home to the government and its civil infrastructure on the first day of hostilities, causing the same destruction Liddell Hart hoped to avoid.³³

Political Restraint

Liddell Hart’s version of strategic paralysis is also far more compatible with the politically restrained nature of post-Cold War conflict than Warden’s “hit-him-in-the-face” approach.³⁴ Warden hopes to attack—and Liddell Hart hopes to avoid—sensitive targets that politicians view with reluctance. Warden’s targeting philosophy takes the air war downtown, where collateral damage and civilian casualties are virtually inevitable. In fact, Warden’s insistence on a furious initial attack that shocks and surprises the adversary—the kingpin of decapitation strategy—finds itself clearly at odds with the political realities of modern war. Liddell Hart, on the other hand, avoids the immediate destruction of these “grand strategic” targets and opts to achieve paralysis at the operational level by attacking far more politically permissible targets of an explicitly military nature.

To be fair to Warden, one must note that he clearly recognizes the possibility that his style of coercion invokes political restraint: “Political leaders may be loath to attack enemy rear areas at times. Conceivably, cogent political or strategic reasons may call for avoiding attack on rear areas. It is imperative, however, that the operational commander make clear to the political authorities that they are directing a *militarily* illogical course, and that the cost and duration of the war almost certainly will be far higher and longer than it otherwise might be” (emphasis in original).³⁵ With this passage, though,

Warden reveals three glaring shortfalls of his coercion theory. First, he fails to recognize that a different concept—one such as Liddell Hart's, which attacks the military in a more direct fashion—could in fact be a more *militarily* prudent course.

Second, Warden's theory is thin on recommendations to the operational commander in the event that his or her political leaders choose to disregard such advice. He submits elsewhere that "these disagreements will arise in virtually every war. The operational commander must make his views known, but he also must be ready with contingency plans in the event he is overruled."³⁶ Unfortunately, he offers few alternatives to his overtly aggressive approach in spite of the self-professed likelihood that civilian officials would not permit the application of his politically unpalatable methods.

Third, Warden seems to miss the Clausewitzian dictum that war has its own grammar but not its own logic.³⁷ If war has no logic of its own, how can a politically cogent course of action be "militarily illogical"? This gross disconnect between Warden's ideal approach and Clausewitz's real war reveals *the* critical flaw in decapitation theory—that this unrestrained method of coercion is incompatible with the politically restrained nature of modern war.

Limited, Nonprotracted War

Not only is decapitation incompatible with political restraint, but also the theory fails to adequately account for the nonprotracted nature of post-Cold War conflict. Again, Warden's words become his own worst enemy. In arguing that "*distant interdiction* has the capability of producing the most decisive outcomes affecting the whole theater," Warden concedes, quite accurately, that "it also has attached to it the greatest time lags between attack and discernible result at the front" (emphasis in original).³⁸ The very attacks deep into the enemy's rear that Warden advocates, then, are not likely to have any appreciable impact on a nonprotracted war. Such interdiction may be appropriate in a more prolonged conflict but arguably not at the outset of hostilities in a brief confrontation.

Decapitation-based coercion, then, proves largely incompatible with the attributes of post-Cold War conflict. In his

efforts to counter risk theory, Warden concocts a style of coercion that suffers from many of the same drawbacks as the theories of total-war punishment. Like the approach of the interwar theorists who preceded him, Warden's style wholly misses the importance of both political restraint and the better state of peace. Despite his efforts to the contrary, the disconnect between coercion theory and the practice of post-Cold War conflict remains intact.

Denial-Based Coercion: Too Much of a Good Thing

Pape's denial-based theory fills many of the gaps left by the other three methods of coercion. In stark contrast to the preceding theories, his style of denial directly targets the enemy's military strategy and specifically his fielded forces with the intention of making his defeat inevitable. According to Pape, the adversary will at some point recognize the futility of a continued struggle and surrender to avoid further destruction: "Denial strategies target the opponent's military ability to achieve its territorial or other political objectives, thereby compelling concessions in order to avoid futile expenditure of further resources. . . . Thus, denial campaigns focus on the target state's military strategy."³⁹

Denial and the Attributes of Post-Cold War Conflict

With his focus squarely on the adversary's military capabilities, Pape arrives at a theory of coercion that, though not without its flaws, is far more compatible with the defining attributes of post-Cold War conflict. Denial differs decidedly from the other coercive strategies in that it attacks military targets exclusively. In so doing, it forces the adversary to change his behavior without the malignant side effects so prevalent in punishment and decapitation. By offering a viable concept that avoids the targeting of politically sensitive civilian sites, denial proves far more compatible with the politically restrained nature of post-Cold War conflict.

Denial does not, as some critics may contend, reduce the air arm to the ignoble status of maidservant to the army. Denial-based coercion instead makes airpower maidservant to *policy*—as it should be. Denial, however, is unique and in some cases superior to its distant coercion cousins because it serves both the positive and negative aims of policy. Simply put, it achieves political objectives within the confines of political restraints. Conversely, the other three approaches aim to serve the positive at the exclusion of the negative—to achieve war aims with no regard for the politically restrained nature of limited war.

The targeting philosophy espoused in the other coercion theories renders long-term effects largely incompatible with the nonprotracted nature of post-Cold War conflict. Proponents of both punishment and decapitation boast of an important denial element in their theories but often fail to mention the time necessary for this aspect of their approach to take effect. Pape, however, does not miss the opportunity to draw attention to this shortfall: “In short wars, attacking economic targets rarely affects battlefield capabilities.”⁴⁰

Pape’s approach to denial, on the other hand, has a more immediate effect. A focus on direct military targeting—undiluted by attacks on economic or civil infrastructure—ensures that the enemy is denied the use of his fielded forces at the earliest possible time. As such, Pape’s style of denial is far more in line with the relatively brief US wars fought in the last decade of the twentieth century.

The most important improvement of denial over the other coercion theories, though, is its greatly increased compatibility with Liddell Hart’s concept of the better state of peace. First, it promises to degrade severely the adversary’s capacity to wage war in the future. If the war ends quickly, a denial approach ensures maximum degradation of the enemy’s fielded forces. The other approaches, with their emphases elsewhere, allow the adversary to escape with his military capability largely intact. Second, denial avoids unnecessary destruction of the enemy nation’s social and economic infrastructure: “Unlike countercivilian strategies, denial strategies make no special effort to cause suffering to the opponent’s society, only to deny

the opponent hope of achieving the disputed territorial objectives.”⁴¹

Third, in the event that coercion fails, Pape’s model has the added benefit of bringing the coercing nation closer to a brute-force victory. Pape asserts that “coercion by punishment rarely works. When coercion does work, it is by denial. Denial does not always work, either, of course, and sometimes states have no choice but to inflict a decisive defeat.”⁴² And, if required, denial can take a large first step in that direction. Mueller cites this added benefit of Pape’s coercive approach: “Denial offers an additional advantage over punishment, in that it fails gracefully if it does not work. The actions a coercer takes to convince the enemy that defeat is inevitable are basically the same as those required to make defeat actually occur; that is prosecuting a denial strategy looks very much like pursuing a pure force victory. If it fails, the effort will not have been wasted.”⁴³ Contrary to Schelling’s belief, denial and its emphasis on military targets are by no means the same as brute force. Because the latter aims simply to destroy the adversary, it is in essence the antithesis of coercion. Denial, on the other hand, focuses squarely on coercion and arguably has even more coercive potential than the other theories. Because denial *resembles* brute force in the targets it attacks, however, it adds a brute-force fallback not available in the other three approaches.

The Shortfalls of Pape’s Theory of Coercion

Like the other theories, however, Pape’s denial-based coercion has its own flaws—for example, the focus on denying the enemy his strategy. This idea carries an intuitive and often-unsubstantiated assumption that the enemy actually has a cogent, well-conceived strategy and that the coercing nation can unequivocally determine what it is. One should note that the United States itself has entered conflicts without clear, coherent plans for the conduct of combat operations. It would simply be quite difficult to assign a strategy to a belligerent who has yet to choose one himself. Even when the adversary has a specific plan, Pape assumes that the coercing nation always has the capacity first to decipher that strategy and then

to attack it. Both are bold assumptions. Getting it wrong could lead to a fruitless or, even worse, a largely counterproductive effort.

Second, for Pape, the coercive aspects of denial focus on the enemy's *fielded* forces—not on his *air* forces. Pape views air superiority as a prerequisite to—but separate from—the prosecution of denial-based coercion: “Air superiority is not a separate coercive air strategy but a necessary step in the pursuit of all four coercive strategies. The central question in air strategy is what to attack once air superiority has been achieved.”⁴⁴ On the contrary, one should view the destruction of the enemy's air forces and air defenses as an integral part of the denial effort itself.⁴⁵ A well-conceived denial strategy should not solely target *ground* forces, as Pape prescribes, but should attack *all* military forces. Mueller agrees with this assertion: “Air superiority, which Pape regards merely as a precondition for aerial coercion, can be coercive in its own right if the enemy's strategy hinges on control of the air.”⁴⁶

The third and most significant drawback to Pape's theory, however, is his failure to consider the other coercive tools as complements to denial. In *Bombing to Win*, he grossly overstates denial's case by unequivocally negating the coercive potential of punishment, risk, and decapitation. Pape carelessly tosses the other ideas aside when he asserts, “First, punishment does not work; . . . second, risk does not work; . . . third, decapitation does not work.”⁴⁷ In so doing, Pape puts all his coercion eggs in one denial basket, leaving no room for the other coercion strategies. Short of a decisive military victory, he offers practitioners of war no alternative if his “one-size-fits-all” approach fails to coerce a particularly obstinate adversary or proves unresponsive to the context of a particular conflict. According to Mueller, “statesmen and officers who find themselves advocating coercive strategies over very high stakes without being able to deny the enemy the prospect of victory through resistance should seriously reconsider their policies. It is less obvious, however, that they should embrace denial alone as the only effective use of coercive air power.”⁴⁸ Pape's greatest strength—his emphasis on denial—becomes

his greatest weakness when he wholly discounts the viability of the other coercive methods.

Unlike the approaches that preceded it, then, denial-based coercion theory is quite compatible with the three specific attributes of conflict in the post-Cold War era. Because of the weaknesses in Pape's approach, though, his theory of coercion cannot stand alone as a sufficiently coherent and substantive approach to modern war. In fact, the limitations of all four constructs—punishment, risk, decapitation, and denial—point to the need for an approach designed to meet the specific needs of post-Cold War conflict more adequately. Fortunately, though, much in these existing theories informs the content of a new theory of coercive airpower for the post-Cold War era.

Notes

1. Karl Mueller, "Coercion and Air Power: A Primer for the Military Strategist," lecture, Royal Netherlands Air Force Airpower Colloquium 2000, Netherlands Defence College, Rijswijk, Holland, 6 June 2000, 4.
2. Stephen T. Hosmer, *Psychological Effects of U.S. Air Operations in Four Wars, 1941-1991: Lessons for U.S. Commanders* (Santa Monica, Calif.: RAND, 1996), xxi-xxiii.
3. Lt Col Mark J. Conversino, "The Changed Nature of Strategic Air Attack," *Parameters*, Winter 1997-1998, 31.
4. Giulio Douhet, *The Command of the Air*, trans. Dino Ferrari (1942; reprint, Washington, D.C.: Office of Air Force History, 1983), 50-51.
5. *Ibid.*, 100.
6. Maj Muir S. Fairchild, "National Economic Structure," lecture AF-9 and 10-C, ACTS, Maxwell Field, Ala., 5 April 1939, Air Force Historical Research Agency (AFHRA), file no. 248.2021A-7.
7. Lt Gen Ira C. Eaker, commanding general, Mediterranean Allied Air Forces, to Lt Gen Carl Spaatz, commanding general, US Strategic Air Forces, letter, subject: Operation Clarion, 1 January 1945, papers of Carl A. Spaatz, box 20, Manuscript Division, Library of Congress.
8. Douhet, 5-6.
9. Robert A. Pape, *Bombing to Win: Air Power and Coercion in War*, Cornell Studies in Security Affairs (Ithaca, N.Y.: Cornell University Press, 1996), 68.
10. Klaus Knorr, *The Power of Nations: The Political Economy of International Relations* (New York: Basic Books, 1975), 141.
11. Beth Osborne Daponte, "Iraqi Casualties from the Gulf War and Its Aftermath" (Cambridge, Mass.: Defense and Arms Control Studies [DACS] Program, Center for International Studies, Massachusetts Institute of Technology, 1992), 1; see also "Tactical Bombing of Iraqi Forces Outstripped Value of Strategic Hits, Analyst Contends," *Aviation Week and Space Technology* 136, no. 4 (27 January 1992): 63.

12. Conrad C. Crane, *American Airpower Strategy in Korea, 1950–1953* (Lawrence, Kans.: University Press of Kansas, 2000), 184.
13. B. H. Liddell Hart, *Strategy* (New York: Praeger Publishers, Inc., 1967), 351.
14. *Ibid.*, 349.
15. Mueller, 9.
16. Air Force Manual (AFM) 1-2, *United States Air Force Basic Doctrine*, 1 December 1959, 4.
17. Robert B. Johnson, "RAND Studies of Air Power in Limited Wars," Special Information Memorandum no. 7, Headquarters Far East Air Forces, 21 May 1957, AFHRA, file no. K720.3102-7, 6.
18. *Ibid.*, 5.
19. Thomas C. Schelling, *Arms and Influence* (New Haven, Conn.: Yale University Press, 1966), 172.
20. Karl Mueller, "Denial, Punishment, and the Future of Air Power," *Security Studies* 7, no. 3 (Spring 1998): 189.
21. Schelling, 2.
22. *Ibid.*, 172.
23. *Ibid.*, 89.
24. See Wayne Thompson, *To Hanoi and Back: The U.S. Air Force and North Vietnam, 1966–1973* (Washington, D.C.: Smithsonian Institution Press, 2000), 276–79; and Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (New York: Free Press, 1989), 163–64, 194–202.
25. John A. Warden III, *The Air Campaign: Planning for Combat* (San Jose, Calif.: toExcel, 1998), 55; and Col Richard T. Reynolds, *Heart of the Storm: The Genesis of the Air Campaign against Iraq* (Maxwell AFB, Ala.: Air University Press, January 1995), 28–29.
26. Reynolds, 72.
27. *Ibid.*, 28–29.
28. Col John A. Warden III, "The Enemy as a System," *Airpower Journal* 9, no. 1 (Spring 1995): 51–52.
29. Warden, *The Air Campaign*, 113.
30. *Ibid.*, 144–45.
31. Liddell Hart, 351.
32. *Ibid.*, 348.
33. *Ibid.*, 348–49. A closer look reveals that the two theorists in fact focus on different levels of war. In his historical analysis of World War II, Liddell Hart observes that what was called the "strategic bombing" of Germany could have been more accurately termed "grand strategic bombing." In this discussion, it seems evident that the term *strategic* as Liddell Hart used it in the 1950s more closely approximated the term *operational* as it is used today. Speaking about the Allied grand strategic bombing campaign, Liddell Hart asserts that "it seems fairly certain, even on a reasonably favourable view of its effects, that they were less decisive than the action of air forces against strategic objectives—in the military sphere" (362). Consequently, in Liddell Hart's parlance, Warden's version, with its focus on the civilian leadership, would more appropriately be termed "grand strategic paralysis." Likewise, Liddell Hart's concept, which targeted the military and its command structure, would more accurately be called "operational paralysis" today. These subtle distinctions are important because they drove the two men to

CADRE PAPER

quite divergent theories of war. In the context of post-Cold War conflict, "paralysis" and its governing coercion theory must serve both the war *and* the peace. Basil Liddell Hart understood this; John Warden seemingly does not.

34. When Warden briefed Lt Gen Charles Horner, the Gulf War air component commander, on the Instant Thunder plan, Horner quipped, "It sounds like a 'decapitate the snake plan.' I don't see it as a slick plan, but as a 'hit-him-in-the-face plan.' " See Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (New York: Little, Brown and Company, 1995), 93.

35. Warden, *The Air Campaign*, 55.

36. *Ibid.*, 112.

37. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1976), 605.

38. Warden, *The Air Campaign*, 81.

39. Pape, 19.

40. *Ibid.*, 75.

41. *Ibid.*, 19.

42. *Ibid.*, 15.

43. Mueller, "Denial, Punishment, and the Future of Air Power," 191-92.

44. Pape, 58.

45. Maj Thomas P. Ehrhard, *Making the Connection: An Air Strategy Analysis Framework* (Maxwell AFB, Ala.: Air University Press, April 1996), 11.

46. Mueller, "Denial, Punishment, and the Future of Air Power," 214.

47. Pape, 316.

48. Mueller, "Denial, Punishment, and the Future of Air Power," 208-9.

Chapter 3

A New Theory for a New Era

Before fighting the first battle one must have a general idea of how the second, third, fourth, and even the final battle will be fought, and consider what changes will ensue in the enemy's situation as a whole if we win, or lose, each of the succeeding battles. Although the result may not—and, in fact, definitely will not—turn out exactly as we expect, we must think everything out carefully and realistically in the light of the general situation on both sides. Without a grasp of the situation as a whole, it is impossible to make any really good moves on the chessboard.

—Mao Tse-tung

In World War II, ACTS concepts embodied in the industrial-web theory guided American air strategy. Policy makers during the Vietnam War looked to Schelling's concept of risk. Desert Storm had John Warden. Regrettably, we have no codified theory to guide the conduct of America's conflicts in the post-Cold War era. Each of these past approaches, based on assumptions that do not meet the post-Cold War standard, largely ignores the realities of modern war. To fill the gap, this paper recommends a three-phased hybrid approach to coercion that optimizes the strengths and minimizes the weaknesses of the existing constructs of coercive airpower.

Phase One

This new theory of coercive airpower opens hostilities with an aggressive denial campaign flanked by a fairly sizable element of risk. Air strategists pursuing such an approach launch a massive attack on military targets while holding decapitation- and punishment-based civilian sites at risk (fig. 1). By capitalizing on the coercive aspects of both denial and risk, this hybrid theory seeks synergy from a tenuous partnership between Pape and Schelling. As denial makes defeat progressively likely, the adversary is compelled to change his behavior.

If not, the symbiotic threat of future attacks on leadership and infrastructure targets will persuade him to think again. Schelling argues that the threat of attacking civilian targets is more effective than actually bombing them. The goal in this phase is successful coercion of the adversary with the “one-two punch” of denial and risk without having to resort to the other coercive measures.

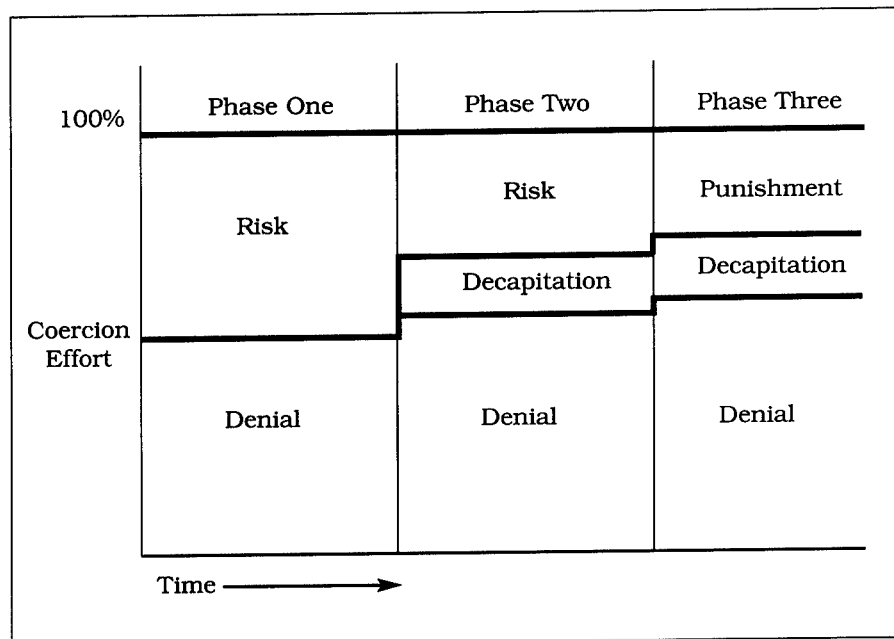


Figure 1. The Coercion Hybrid

Counterair Denial

One should note that, unlike Pape’s theory, the denial aspect of this hybrid concept attacks the enemy’s *armed* forces as a whole—not only *ground* forces, but also *air* forces, *air* de-

fenses, and *naval* forces, if applicable—in very large numbers, from the first day of the conflict to the last. Accordingly, Conversino argues that “the opponent’s integrated air defense system, including its air units, are part of a nation’s fielded forces.”¹ Similar to Douhet’s venerable concept of command of the air, then, the counterair campaign not only is an essential prerequisite to a coercion strategy, but also is part and parcel of the coercion effort itself. Simply stated, counterair is coercive in its own right. As such, *counterair denial* is a pivotal aspect of phase one.

Few other theorists have grasped this seemingly simple concept. For example, Warden, whose approach similarly attacks the adversary’s air forces, does so to *enable* the coercive effort and not for any intrinsic coercive value in and of itself. Pape and Marshal of the Royal Air Force Sir John “Jack” Slessor, an interwar British airman, largely agree that air superiority serves as a vital precursor to the counterland effort. Slessor distinguishes himself from Pape, though, when he hints in *Air Power and Armies* that the enemy may be coerced to surrender “when his air forces form so large and important a proportion of his total fighting strength that the attainment of a real superiority in the air will, in itself, be sufficient to induce him to accept our terms.”² But Slessor avoids any further discussion of the topic, explaining that “these are not the conditions which it is the object of this work to examine.”³ According to Meilinger, “Slessor remained ambivalent about the air superiority campaign, arguing on one hand that it was necessary but on the other that one should not see it as an end in itself.”⁴ Consequently, neither Pape nor Slessor fully develops the very real denial aspect of the air superiority effort. Additionally, they both miss the point. The issue is not whether airpower can be decisive by achieving air superiority but whether it can coerce by attacking the enemy’s *air* forces in addition to his *surface* forces.

Additionally, one should explore a subtle but important distinction that exists between counterair denial and air superiority. Counterair denial is coercion; air superiority is only one desired *outcome* of the counterair effort for the *sole purpose* of enabling counterland and further counterair denial. Whereas

counterair denial may be an end in itself, then, air superiority is not. Slessor accurately assesses that “air superiority is only a means to an end and, unless it is kept in its proper place as such, is liable to lead to waste of effort and dispersion of force.”⁵ When air superiority takes on an elevated importance of its own, airpower begins to lose its focus. One can inappropriately divert limited air assets away from the counterland effort to achieve an unnecessary level of superiority. In this construct, then, the only goals of counterair are (1) employing coercion and (2) using air superiority to enable the counterland-denial campaign in phase one and, potentially, the other coercive efforts in later phases.

Counterland Denial

In the history of warfare, the enemy’s fielded forces have always been a—often *the*—primary object in war. With the advent of airpower, airmen began to scrutinize the truth of this venerable assumption. In a lecture to ACTS in 1940, Maj Muir S. Fairchild claimed that, historically, “the ground commander was forced to accept an *intermediate* objective; he was left no choice; he must defeat the enemy’s armed force as a preliminary to final military pressure through occupation of the enemy’s critical areas. This intermediate step to the ultimate goal has been required ever since the beginning of armed conflict. In fact, it has been so consistently necessary as to lead many military men to accept the enemy’s armed forces as the true military objective” (emphasis in original).⁶ Almost immediately, airmen looked beyond the enemy’s fielded forces, expecting to find that true military objective elsewhere. The fact that airpower can bypass the enemy’s ground forces, however, does not necessarily mean that it should.

On the contrary, the enemy’s fielded forces remain a primary target in war. Over 60 years ago, Slessor submitted that “the object of the air force in a campaign of the first magnitude in which great armies are engaged is the defeat of the enemy’s forces in the field, and primarily of his army.”⁷ His assertion about airpower in land campaigns, although appropriate in his own day, may be even more applicable to post-Cold War conflicts such as Allied Force, in which the air arm was the

only component waging war against the opposing army. Accordingly, attacking and degrading the enemy's surface forces have increasingly become the responsibility of airpower.

With his counterland focus, however, Slessor found himself in the minority during the interwar period. Douhet and the American airmen of his day sought, as did the contemporary prophet John Warden, a theory that would "leapfrog" the enemy's surface forces and attack his *true* center of gravity (COG). These theorists borrowed the concept from Clausewitz, who defines a COG as "the hub of all power and movement, on which everything depends. That is the point against which all our energies should be directed."⁸ Most interwar theorists on both sides of the Atlantic agreed that, historically, fielded forces were attacked only as a means to an end, with that end being the actual COG. They seemed to miss the point that the COG could in fact be the enemy army itself. But Clausewitz did not: "For Alexander, Gustavus Adolphus, Charles XII, and Frederick the Great, the center of gravity was their army. If the army had been destroyed, they would all have gone down in history as failures."⁹ He is even clearer elsewhere: "To sum up: of all the possible aims in war, the destruction of the enemy's armed forces always appears as the highest."¹⁰ To be fair, Clausewitz does go on to list the enemy capital and his allies as additional, potential COGs. By looking beyond the army to the belligerent's capital, though, the interpreters of Clausewitz miss a vital point about the concept as it relates to limited war: What was no longer out of reach for technological reasons would nonetheless often remain unattainable for political ones today.

Furthermore, the term COG implies that, if one attacks a single panacea target set, the enemy's strength—thus, his resistance—will crumble. Warden and his predecessors certainly believe this to be true. Slessor and many others since his time do not: "No nation at war—with possibly in some circumstances the unfortunate exception of ourselves—has any one single centre of which the paralysis by an enemy would be fatal. If there were any one single centre it might be possible so highly to organize its defences as at least to make the attack so costly that the attacker would not continue to face the losses involved."¹¹

With this passage, Slessor elucidates an additional point quite pertinent to the politically restrained nature of post-Cold War conflict: A target in the enemy's capital, even if it does amount to this elusive COG, normally will be very well defended, significantly increasing the likelihood of lost aircraft and aircrews. Conversely, air and space technology allows airpower to target land armies with much greater efficiency and with far fewer losses than ever before. In the conflicts of the post-Cold War era, air forces have attacked surface forces without the bloody, costly consequences of force-on-force battle in the age of Slessor, ACTS, and, for that matter, Clausewitz. In fact, in very general terms, deployed military forces protected by marginally integrated, mobile surface-to-air missiles and antiaircraft artillery pose less of a threat than deep targets in the capital city guarded by sophisticated networks of several well-integrated and redundant missile and artillery systems.

In sum, phase one allows the coercing nation to concentrate its effort on counterland efforts and counterair denial while holding decapitation and punishment targets at risk. If successful, the first phase is an end in itself. If not, it serves as a means to an end by substantially weakening the enemy's military capacity to resist attacks in the subsequent phases. Hosmer finds that such denial and the results it renders are essential elements of successful coercion in all wars: "In every major conflict from World War II on, enemies have capitulated or acceded to peace terms demanded by the United States only after their deployed forces have suffered serious battlefield defeats. In future conflicts, enemy leaders are likely to prove equally reluctant to make concessions or terminate conflicts as long as they see a chance to prevail on the battlefield."¹²

Phase Two

Attacking the enemy's armed forces, then, is necessary but not always sufficient. Accordingly, Hosmer also assesses that "attacks or threatened attacks against enemy strategic targets have helped to persuade enemy leaders to terminate wars on terms acceptable to the United States only when the enemy leaders have perceived that they faced defeat or stalemate on

the battlefield.”¹³ In short, denial in some cases may require the implementation of additional coercive instruments. Consequently, in the event that phase one fails to coerce compliance, the hybrid theory of coercive airpower adds decapitation to the risk-and-denial formula. In the second phase, this new approach comes at the adversary from three different directions. First, it continues to target fielded forces and remaining air forces in large numbers, with the important addition of an element of denial inherent in the decapitation strategy. Second, it carries out the threat to attack leadership, aiming to capitalize on the coercive potential of Warden’s approach. Finally, it continues to hold civilian economic targets at risk.

Transition to the second phase of this coercion hybrid is possible only if political authorities release the sensitive leadership and communication targets associated with the decapitation strategy.¹⁴ Without this shift in political restraint, no shift to phase two occurs. If civilian officials release such targets in a piecemeal fashion, air strategists will intentionally hold them in reserve until a fundamental change in the politically restrained nature of the conflict allows the attack of leadership sites en masse. Consequently, airpower will have the opportunity to capitalize—admittedly to a lesser degree—on the shock, surprise, and simultaneity missed when these targets do not come under attack at the outset of hostilities. Additionally, this massive shift ensures the coercing nation’s credibility to make good on its threat to decapitate and punish targets.

Phase Three

In the event that this three-pronged attack fails to reverse the adversary’s behavior *and* if the political context allows, the coercing nation may change from holding economic targets at risk to actually pursuing a punishment strategy. Again, considerable shock value accrues to holding the bulk of these targets in reserve until the policy makers release them en masse. Attacking economic targets in large numbers will have the added effect of bolstering the already potent denial campaign even more. The enemy’s armed forces, suffering from relent-

less attack, will further feel the denial effects of decapitation in phase two and punishment in phase three.

It is essential, however, that phase one's counterland/counterair denial continue in full force throughout these later phases. The Battle of Britain taught a lesson quite pertinent to this approach. Germany's initial bombing campaign against England was a successful, nearly decisive counterair denial effort. In response to a British retaliatory raid on Berlin, though, Adolph Hitler abandoned the denial effort altogether, opting for punishment attacks on London: "The fateful decision was finally made that the whole weight of the Luftwaffe attack should be switched to London; thus . . . Fighter Command's airfields were saved. It was not a moment too soon."¹⁵ The message should be clear: One must maintain the intensity of the denial effort throughout. It is essential not to switch from one method to another but to *add* decapitation and then punishment to the denial effort if necessary.

Limited, Nonprotracted War and the Coercion Hybrid

The hybrid coercion theory is clearly more compatible with the attributes of post-Cold War conflict than are its predecessors. For one, it fits far better into the limited nature of modern war. By design, it provides policy makers with a limited option that stops short of a prematurely aggressive approach. The proposed hierarchy for the types of targets struck will likely match the limited objectives of post-Cold War conflict.

Additionally, commanders conducting limited wars have a finite number of assets at their disposal. Initially, the coercion hybrid focuses these restricted resources on a viable denial campaign with the option of allocating additional forces to implement later phases. The new theory allows more efficient focusing of the limited number of strike aircraft on a condensed number of interrelated denial targets. Concentrating airpower in this way at the outset of hostilities maximizes the principle of economy of force. This approach assumes that a shift to later stages would be accompanied by an increase in forces, particularly in the assets that will strike decapitation and

punishment targets. Without such an increase, this move would be unwarranted and largely inappropriate.

Slessor captures the essence of the coercion hybrid: "The whole art of air warfare is first the capacity to select the correct objective *at the time*, namely that on which attack is likely to be decisive, or to contribute most effectively to an ultimate decision; and then to concentrate against it the maximum possible force, leaving only the essential minimum elsewhere for security" (emphasis in original).¹⁶ In accordance with Slessor's assertion, the new theory is intentionally designed so that limited forces are concentrated to the maximum extent possible. By allowing for a phase shift as the context changes, the coercion hybrid targets the appropriate objective at the optimum time. Additionally, the coercive effort within each phase is arguably the one most likely to prompt a timely decision.

The coercion hybrid is also more compatible with the non-protracted nature of conflict in the post-Cold War era. With the focal point of this new approach on denial-based coercion, the coercing nation benefits from the more immediate effects of attacking military targets. Furthermore, by starting with a massive denial effort, the coercion hybrid ensures the maximum possible degradation of the adversary's military capabilities in the event of early capitulation. One should note that a shift to the later stages carries with it the realization and tacit assumption that the nonprotracted nature of the conflict has changed and that the war will be more prolonged. Consequently, decapitation- and punishment-based targeting philosophies become more appropriate at that time.

The Coercion Hybrid and the Politically Restrained Nature of Post-Cold War Conflict

The greatest strength of the coercion-hybrid theory is that, instead of expecting politicians to acquiesce to overtly aggressive military strategies, it realigns airpower with the politically restrained nature of post-Cold War conflict. Approaching coercion in this manner capitalizes on the coercive effects of each individual theory to the maximum extent allowable in politically restrained war. It avoids politically unpalatable targets until the

context allows attack on leadership and infrastructure. It permits airpower to conform to politics without compromising the essence of war in the third dimension. The concept remedies the friction between politician and air strategist so prevalent in the other approaches. It is responsive to political demands without being foreign to military thought. Unlike the theories of Warden and his ACTS predecessors, it aligns military grammar with political logic. In fact, in more general terms, this new theory aligns airpower theory with the venerable teachings of Clausewitz himself: "Subordinating the political point of view to the military would be absurd, for it is policy that creates war. Policy is the guiding intelligence and war only the instrument, not vice versa. No other possibility exists, then, than to subordinate the military point of view to the political."¹⁷

A campaign plan that exclusively attacks the enemy's armed forces at the outset of hostilities and initially avoids deep-strike civilian targets altogether is far more compatible with political restraint than one that starts with a punishment or decapitation strategy. This new approach not only minimizes the potential for collateral damage and civilian casualties, but also reduces the likelihood of losing friendly aircraft in the often more heavily defended areas of the country. In fact, it is fair to postulate that, by having one's forces wait before they "go downtown," the enemy's air defenses may be at a lower state of alert by the time such attacks become necessary and permissible. The enemy may actually move some air defense sites to defend elsewhere, leaving the capital more vulnerable to phase-two and -three attacks. American politicians and the public alike must realize, however, that losses will still occur. They must be prepared for collateral damage and civilian casualties, even in this more careful approach. In line with the politically restrained nature of post-Cold War conflict, however, this new theory truly reduces the chances of each to the absolute minimum.

Quite interestingly, John Warden, one of the most vocal critics of a pure denial effort, recognizes the potential need for the method advocated in the hybrid theory: "Ideally, a commander will attack centers of gravity as close as possible to the leadership ring of the five rings. He may, however, be forced to deal with the enemy's fielded military forces because he cannot

reach strategic centers without first removing enemy defenses because enemy forces are threatening his own strategic or operational centers of gravity *or because his political masters will not permit him to attack strategic centers*" (emphasis added).¹⁸ In fact, this new approach attacks each of the COGs identified in Warden's five rings but orders them in a way that is more compatible with political restraint.¹⁹

The Coercion Hybrid and the Better State of Peace

Compared to the previous theories of airpower, the coercion hybrid also allows for a far better state of peace. With the denial effort primary and pervasive throughout, this new approach severely weakens the adversary's capacity for future aggression by targeting his fielded forces from the beginning of the conflict to the end. By initially avoiding decapitation- and punishment-based coercion, it also aims to make the adversary comply quickly, thus sparing civilian targets that one would prefer to leave intact.

The overarching purpose of each method employed in this new theory, of course, is to coerce the enemy. Beyond the coercive value of denial-based targeting, though, the desired effect of attacking military targets in this approach is destruction *and* paralysis. Both serve the short-term objectives of winning the war itself, and the destruction of military equipment, supplies, and facilities serves the long-term aim of winning the peace as well. If coercion fails altogether, denial's destructive aspect facilitates a brute-force victory.

The desired effect of the decapitation attacks in phase two is maximum paralysis and minimum destruction. Whereas Warden's approach results in appreciable levels of both, decapitation in the hybrid theory aims to win the war with the least detrimental effect on the postwar environment. In fact, decapitation is preferable to punishment primarily for this reason. The better state of peace, of course, is optimized if the coercive effort is successful prior to the implementation of phase two. Although the negative impact of decapitation is less severe than that of punishment, the second phase does invite

the less-desirable effects of targeting political leadership and communications. In the coercion hybrid, however, chances are favorable that the synergistic phase-one instruments of denial and risk will negate the need to resort to such attacks.

Although unlikely, it is possible that a coercing nation may determine that a certain degree of damage to the enemy's national economy and civil infrastructure is in line with the optimal state of peace. A shift to phase three would allow for this desired end state. One should note, however, that it is generally far more appropriate to weaken an adversary by degrading his military might than by tearing down his economic capacity. By attacking military targets, one conducts the war with peace in mind. Civilian targeting most often aims to win the war without due regard for the peace one desires.

The Escalatory Nature of the Coercion Hybrid

The most unfortunate aspect of this new approach is that it quite clearly carries with it the burdensome appearance of gradualism—anathema to most airpower circles. However, this theory differs from gradual escalation in two subtle but quite significant ways. First, the initial denial phase is designed to be anything but gradual, starting with a massive attack on air and ground forces and maintaining that intensity throughout the conflict. Second, it does not release and withhold civilian targets on an ad hoc basis, as was the case during Rolling Thunder, but very consciously holds them in reserve until the politics of the conflict allow airpower to be unleashed en masse. In fact, this very deliberate stair-step approach, complete with well-conceived, compatible, and coherent phases, would more accurately be labeled “phased escalation.”

To distinguish between this new concept of phased escalation and the gradual escalation of the Vietnam era, one should consider again the difference between Rolling Thunder and Linebacker. Aside from the markedly different contexts in 1968 and 1972, Johnson and Nixon used escalation in very different ways. Johnson's haphazard “on again, off again” version gave Schelling's theory of risk a bad name. In fact, everyone agrees that Rolling Thunder was an utter failure. Admit-

tedly, the United States had more modest political aims in 1972, but most people consider the Linebacker operation an example of successful coercion. Nixon, who started with a denial-based Linebacker I campaign, later added massive, punishment-based attacks in Linebacker II. Nixon's approach, then, approximated the concept of phased escalation; Rolling Thunder clearly did not.

Another complaint about gradual escalation that grew out of Johnson's supervision of the air war in Vietnam is that it allows the enemy to recover from a blow and reconstitute his military strength. Because of constant US vacillation, this occurred numerous times in Vietnam. Clearly, this would not happen in a strategy that follows the phased coercion hybrid. From the first to the last day of the war, this new theory calls for nonstop attacks on military targets. The enemy's armed forces would never get a break from such a relentless denial effort.

Furthermore, phased escalation allows this hybrid approach to strike a pivotal balance between structure and flexibility—a balance that is absent from existing theories of coercion. In general, a conspicuous and pervasive disconnect exists between the fluidity of American politics and the generally rigid practices of the US armed forces. This airpower theory begins to bridge the gap with an approach that is politically flexible and at the same time militarily sensible. It builds expected policy shifts into the plan up front, allowing changes to flow in a coherent manner.

Conclusion

The coercion hybrid, then, is compatible with the attributes of conflict in the post-Cold War era. It builds upon previous theories of coercion to arrive at an approach in line with limited, non-protracted war. It provides an approach structured for and responsive to the politically restrained nature of the limited wars of today and tomorrow. It pulls existing constructs together in a way that yields a better state of peace. Most importantly, it provides the twenty-first-century airman with a well-constructed theory of coercive airpower specifically designed for the unsettled landscape of the post-Cold War era.

Notes

1. Mark J. Conversino, "The Changed Nature of Strategic Air Attack," *Parameters*, Winter 1997–1998, 35.
2. Wing Comdr J. C. Slessor, *Air Power and Armies* (London: Oxford University Press, 1936), 28.
3. Ibid.
4. Col Phillip S. Meilinger, ed., *The Paths of Heaven: The Evolution of Airpower Theory* (Maxwell AFB, Ala.: Air University Press, 1997), 63.
5. Slessor, 4.
6. Maj Muir S. Fairchild, "The Aim in War," lecture AF-3-L, ACTS, Maxwell Field, Ala., 27 May 1940, Air Force Historical Research Agency, file no. 248.2021A-3, 11.
7. Slessor, 61.
8. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1976), 596.
9. Ibid.
10. Ibid., 99.
11. Slessor, 22.
12. Stephen T. Hosmer, *Psychological Effects of U.S. Air Operations in Four Wars, 1941–1991: Lessons for U.S. Commanders* (Santa Monica, Calif.: RAND, 1996), xxi–xxii.
13. Ibid., xxi.
14. This construct assumes that civilian leaders initially will withhold such targets from attack and release them in large quantities only after other coercive measures have failed to compel compliance.
15. Robin Higham, "The Royal Air Force and the Battle of Britain," in *Case Studies in the Achievement of Air Superiority*, ed. Benjamin Franklin Cooling (Washington, D.C.: Office of Air Force History, 1994), 132–33.
16. Slessor, 82–83.
17. Clausewitz, 607.
18. Col John A. Warden III, "The Enemy as a System," *Airpower Journal* 9, no. 1 (Spring 1995): 53.
19. Ibid., 47–51. Leadership, Warden's innermost ring, comes under attack in phase two. Infrastructure and organic essentials, the next two COGs, are targeted in phase three. Direct attacks on population, Warden's next ring, are conspicuously omitted, as Warden himself recommends. By avoiding targets that would cause the civilian population pain, suffering, and privation, however, the coercion hybrid aims at their hearts rather than their homes and workplaces in a manner quite contrary to Warden's theory. Additionally, this new approach protects public support, America's most vulnerable COG, by minimizing collateral damage and civilian casualties. The fielded military, Warden's final ring, is both the focal point of phase one and the target of aggressive attacks in later phases.

Chapter 4

The Coercion Hybrid and Post-Cold War Conflict

Just as some plants bear fruit only if they don't shoot up too high, so in the practical arts the leaves and flower of theory must be pruned and the plant kept close to its proper soil—experience. . . . Theory and experience must never disdain or exclude each other; on the contrary, they support each other.

—Carl von Clausewitz

This chapter analyzes the coercion hybrid from the perspective of three post-Cold War military operations—Desert Storm, Deliberate Force, and Allied Force. In some cases, aspects of this new theory are prevalent in the practical experience of America's wars since the end of the Cold War. In other cases, US airmen might have fared better by following the guidance of this revised theoretical construct.

Operation Desert Storm

The Gulf War stood at the crossroads of the Cold War and the era that followed. Although it took place amidst the dissolution of the Soviet Union, it utilized theory and force structure developed during the Cold War. As such, it both echoed the past and opened a window to the future. Beyond the oft-told official story of the Desert Storm air campaign, the first war of the new era teaches us much about post-Cold War conflict.

Skeptics of the coercion hybrid might argue that decapitation, not the denial aspects of the Desert Storm air campaign, led to success in the Gulf War. They would not be alone in that assessment. For at least three reasons, however, they also would not be altogether correct.

First, decapitation might not have been as successful as its proponents suggest. Of course, Warden and many of his fellow airmen see the Gulf War as a validation of the Instant Thunder plan and the overarching concept of strategic paralysis.¹ Not surprisingly, Pape disagrees: "A strategic bombing strategy, designed by Warden and aimed at decapitating the Iraqi

leadership, was executed during the opening days of the air war against Iraq, and failed completely.”² Lambeth furthers Pape’s assertion: “In the end, the so-called strategic part of the air campaign, namely, those sorties not directly aimed at taking down Iraq’s air defenses, command and control links, and fielded ground forces, did little to affect the immediate course and outcome of the war.”³ More importantly, the findings of the *Gulf War Air Power Survey (GWAPS)* cast doubt on the efficacy of the front-loaded decapitation approach:

Even though the U.S.-led Coalition managed to achieve one of the most lopsided and comparatively bloodless military triumphs in modern history, Coalition air forces did not succeed in toppling Saddam Hussein or completely severing his communications with the Kuwait theater or the Iraqi people during the forty-three-day campaign. . . . So accepting the ambitious aims of decapitation and destruction as measures of effectiveness against the L [leadership] and CCC [command, control, and communication] targets entails the paradoxical assessment of complete failure by Coalition air power against two supposedly key target systems during one of the most successful campaigns in history.⁴

Second, Desert Storm was only partially successful. Among other objectives, Gen Norman Schwarzkopf explicitly set two principal goals for the operation: (1) expel the Iraqi army from Kuwait and (2) destroy the Republican Guard. Gen Colin Powell articulated his vision of the desired end state quite specifically: “I won’t be happy until I see those tanks destroyed. . . . I want to finish it; to destroy Iraq’s army on the ground.”⁵ Although the coalition forced the Iraqi army from Kuwait, many people argue that it did not sufficiently degrade Iraq’s future offensive capability. James Chace observes that President George Bush “was determined to expel Saddam from Kuwait and destroy the Iraqi military. . . . He succeeded in the first aim, and failed badly in the second.”⁶ In *Certain Victory*, Brig Gen Robert Scales left no doubt about his assessment of the “peace” accomplished by the air campaign: “Despite 41 days of almost continuous aerial bombardment, the Republican Guard remained a cohesive and viable military force able to fight a vicious battle and survive to fight insurgents in northern and southern Iraq.”⁷

Third, more than likely, the counterland-denial campaign rather than the decapitation effort led to the measured success of Desert Storm. According to Pape, “The air power that

ultimately coerced Iraq was not the bombs directed at Baghdad, but those that smashed Iraq's field army in the Kuwaiti theater of operations."⁸ Likewise, Lambeth reports that the Gulf War allowed airpower "to demonstrate its real leverage of greatest note, namely, the ability to engage an enemy army wholesale, and with virtual impunity, by means of precision attacks. Appreciation of this point is crucial to a correct understanding of what air power showed itself, for the first time in Desert Storm, capable of doing if properly used."⁹

In the aggregate, the coalition did succeed in forcefully evicting Iraqi forces from Kuwait. The fundamental question is whether an intense and up-front counterland-denial campaign would have rendered a more favorable peace and a less-threatening Iraqi military. One may postulate that the coalition would have had more rather than less success in achieving both goals had it weighted the air campaign in favor of denial instead of decapitation. Lambeth, for one, ponders whether airpower would have achieved more than it did if denial had played a more dominant role in the Desert Storm air war: "One might argue in hindsight that at least many of the allied attacks against Iraq's infrastructure drew off both sorties and precision weapons that could have been put to better use against targets of more direct relevance to Iraq's fighting capacity. They also may have been unnecessary in retrospect."¹⁰

Interestingly, although people often herald the Gulf War as the antithesis of Vietnam-style gradualism, the Desert Storm air campaign had its own breed of escalation. Indeed, the swift and overwhelming "strategic offensive," which grew out of Warden's Instant Thunder plan, bore little resemblance to the incremental pattern of Rolling Thunder. Because air planners chose to lead with a decapitation-based strategy, though, the counterland campaign actually escalated gradually from a slow start to a full-blown effort just prior to the ground invasion. In fact, just prior to the commencement of hostilities, General Schwarzkopf expressed frustration over the air component's plan because it failed to emphasize attacks on the Republican Guard.¹¹ This incremental counterland effort factored into Iraq's ability to escape with much of its army and elite forces intact.

The coercion hybrid's counterland campaign, of course, allows for no such gradualism. Rather, it emphasizes attacks on the enemy's fielded forces from the first to the last day of hostilities. In sum, the coercion hybrid is neither the risk-based Rolling Thunder of Vietnam nor the decapitation-based Instant Thunder of Desert Storm. Instead, one might more appropriately dub the denial-heavy alternative "Constant Thunder: The Storm That Never Ends."

After a heavy initial emphasis on leadership targets and the slow start of counterland, Desert Storm planners eventually used the massive air armada at their disposal, in essence, to do everything at the same time. In short, the operation did not require an orderly and efficient use of coalition air forces. Nor was it forthcoming. An astute scholar of Desert Storm might refute this assertion, arguing that the air campaign plan had separate phases. Air planners did, in fact, identify four such phases: (1) the strategic offensive, (2) destruction of enemy air defenses in Kuwait, (3) preparation of the battlefield, and (4) the ground invasion. According to GWAPS, however, these phases were distinct only on paper. Instead of working efficiently toward a focused, common objective, planners designed an "air campaign with divergent goals."¹² Additionally, Gen Charles Horner conceded that, "in reality, there were no distinct phases; all operations were going simultaneously."¹³

Using the Gulf War experience as a template for future conflicts, then, would be a dangerous proposition. The massive military force structure employed during Desert Storm was a legacy of the Cold War, but America's current military is greatly reduced in size. What may have been possible in 1991 would not likely fit the limited resources available in today's limited wars. Conversely, the coercion hybrid, with its distinct phases, offers an approach more tailored to the force-constrained realities of post-Cold War conflict.

Operation Deliberate Force

Deliberate Force, the NATO air campaign in Bosnia from 30 August to 14 September 1995, closely resembled the coercion hybrid theory. In fact, the stated military objective—"a robust NATO air campaign that adversely alters the [Bosnian Serb

army's] advantage in conducting successful military operations against the [Bosnian army]"—paralleled the denial aspects of phase one. The desired end state—"Bosnian Serbs sue for cessation of military operations, comply with [United Nations] mandates, and negotiate"—reflected NATO's clear, coercive intent.¹⁴ In short, the goal was to compel the Serbs to accept the terms of what later became the Dayton Peace Accords. Additionally, military commanders and NATO politicians alike were adamant about avoiding collateral damage and civilian casualties that could upset support for their efforts to coerce the Serbs to acquiesce in Bosnia. According to Conversino, this "desire to limit collateral damage and Serb casualties to the lowest possible level reflected the political realities of the Balkans."¹⁵ Lambeth recognizes the delicate political context as well: "Concern over collateral damage was extremely high, since even a single stray bomb resulting in a catastrophe on the ground would end instantly any UN confidence in NATO's ability to be precise."¹⁶

Almost three years of planning for operations in Bosnia culminated in the concept that ultimately guided air operations in that country. The common thread running through each version of the evolving plan was an awareness of the delicate political sensitivities related to air operations in the region. As such, each concept for air attack in Bosnia started with politically permissive military targets and offered other options in the event that denial-based attacks proved unsuccessful. In fact, the final air campaign plan for Deliberate Force bore a striking resemblance to the stair-step approach of the coercion hybrid, in that it called for a "phased sequence of attack" that featured strictly military targets during the initial bombing phase.¹⁷ Specifically, the target categories attacked at the outset—fielded forces, direct and essential military support, and integrated air defenses—closely paralleled the hybrid theory's phase-one focus on counterair and counterland denial.¹⁸

The denial-based initial phase of Deliberate Force also incorporated an important element of risk. Conversino submits that the NATO military commanders and their staffs "factored in political constraints during the planning process, designing a campaign capable of gradual escalation that nevertheless

sought to destroy things rather than kill people.”¹⁹ The plan called for strikes on leadership and infrastructure targets in the event such bombing became necessary and, more importantly, if it received approval from civilian officials within NATO. According to Chris Campbell, politicians and military planners alike recognized that such attacks “might well result in increased collateral damage and were seen as a huge political step to take.”²⁰ Fortunately, the combination of denial- and risk-based coercion and the success of Bosnian Croat ground action drove Bosnian Serb compliance prior to the initiation of these riskier attacks. As such, one can view Deliberate Force as an example of an air campaign that achieved its coercive intent in the first phase of the hybrid theory.

Largely as a result of the approach NATO adopted, the alliance flew 3,535 sorties and dropped over 1,100 bombs with no reported incidents of collateral damage or civilian casualties.²¹ Planners carefully crafted a counterair- and counterland-denial campaign that successfully coerced the Serbian army and its leadership without increasing the likelihood of such damage or casualties through leadership and infrastructure attacks. Lambeth reports that “in the end, NATO’s efforts to minimize unintended destruction paid off well. There were no Serbian complaints about noncombatant fatalities or other harm to innocents, since there was no collateral damage to speak of.”²²

Measured by its own objectives and desired end state, Operation Deliberate Force was clearly a success. As a result of pressure from the ground war and the air campaign, Slobodan Milosevic accepted the Dayton Accords, and the delicate peace in Bosnia secured during the operation remains to this day. The skillful military planning and execution of Deliberate Force under quite difficult political circumstances should serve as a guide to the conduct of conflict in the post-Cold War era.

Operation Allied Force

Four years after Deliberate Force, NATO found itself once again at war in the Balkans. The opponent remained Serbia, its leadership, and its army, but the playing field had moved from Bosnia to the Serb province of Kosovo. The ensuing 78-day air war—Allied Force—offers students and practitioners of

airpower alike many pertinent lessons for the conduct of war in the post-Cold War era.

First, Deliberate Force achieved NATO's objectives (table 1) with denial and risk alone, but Allied Force provides an example of a post-Cold War conflict in which the other coercive methods became necessary. A great debate rages to this day over whether Milosevic accepted NATO's terms because of the denial targeting of fielded forces in Kosovo or the punishment- and decapitation-based coercion in Serbia proper. Gen Wesley Clark, supreme allied commander, Europe during Allied Force, emphasized denial, while Lt Gen Mike Short, his air component commander, strongly supported decapitation and punishment. A well-publicized debate between the two generals during Allied Force typifies the argument that continues to this day: "This [the leadership and infrastructure targeting plan in Serbia proper] is the jewel in the crown," Short said. "To me, the jewel in the crown is

Table 1
Objectives of Allied Force

Political Objectives

President Bill Clinton
(24 March 1999)

- Demonstrate NATO's opposition to aggression
- Deter Milosevic from further attacks
- Damage Serbian capacity to wage war

NATO Secretary-General Javier Solana
(1 April 1999)

- Stop the killing in Kosovo
- End the refugee crisis; make it possible for them to return
- Create conditions for political solutions based on the Rambouillet Accord

US Military Objectives

Secretary of Defense William Cohen
(24 March 1999)

- Deter further action against the Kosovars
- Diminish the Serbian army's ability to attack

Gen Henry Shelton, chairman of the Joint Chiefs of Staff (24 March 1999)

- Reduce ability of Serbian forces to attack the Kosovars

Secretary Cohen and General Shelton (24 March 1999)

- Deter further action against the Kosovars
- Reduce ability of Serbian forces to attack the Kosovars
- Attack Serbian air defenses with minimal collateral damage and civilian casualties
- Failing to deter Milosevic in the near term, diminish his ability to wage war in the future

when those B-52s rumble across Kosovo,' replied Clark. 'You and I have known for weeks that we have different jewelers,' said Short. 'My jeweler outranks yours,' said Clark."²³ In essence, the two approaches produced a compromise.

Second, the remarkably high levels of political restraint at the outset of hostilities diminished in a sizeable way the likelihood that decapitation- and punishment-based targeting strategies would initially have the desired effect. The few leadership and infrastructure targets that made their way through the political target-selection process in the first few weeks could hardly pack the punch called for in these theories of coercion. Initially, rather than compelling compliance, haphazard bombing only emblazoned resistance. The politics at the outset of Allied Force weakened the potential blow of these strikes, essentially rendering them ineffective. Clausewitz anticipated this phenomenon: "Thus policy converts the overwhelmingly destructive element of war into a mere instrument. The terrible two-handed sword that should be used with total strength to strike once and no more, becomes the lightest rapier—sometimes even a harmless foil fit only for thrusts and feints and parries."²⁴ Furthermore, in his study of airpower in four wars, Hosmer concludes that "U.S. self-imposed constraints are likely to limit the potential coercive leverage that can be achieved through future air operations against strategic targets."²⁵

At the politically charged outset of post-Cold War conflict, the enemy's armed forces may be the only target set upon which airpower can concentrate overwhelming force. Because leadership and infrastructure targets are often more politically sensitive, a far more appropriate course of action would entail initially holding these sites at risk and in reserve. Once the coercive potential of risk has reached its apex and the political climate allows for the increased likelihood of collateral damage and civilian casualties, the coercion hybrid can then attack these sites in wholesale fashion.

Third, NATO found that every incident of collateral damage and civilian casualties—predictable by-products of such a prematurely aggressive approach—brought an increase in political restraint and a further decrease in the already questionable effectiveness of the attacks against these target sets. In

sum, these piecemeal attacks arguably had very little effect on the eventual outcome until the politically restrained nature of the war changed significantly in early May. According to John Keegan, there “have really been two air wars, the first lasting a month, the second six weeks.” The first was a measured failure, and the second—a success.²⁶ As a result of this shift in the political context of Allied Force, NATO allowed airpower to conduct larger and more coordinated attacks against Serbia’s political leadership and civil infrastructure.

Fourth, once the political climate allowed the infliction of punishment, that approach—rather than denial—had the greatest coercive value in Allied Force. The denial-based targeting that had proven effective in Bosnia and Kuwait met with questionable results in Kosovo. Facing no threat of a ground invasion, Serb military and paramilitary forces could disperse and conceal themselves in ways that made a denial strategy increasingly difficult. Lambeth finds that “in contrast to Desert Storm, the campaign’s attempts at denial did not bear much fruit.” He adds that “ironically, also in contrast to the coalition’s ultimately unrequited efforts to coerce Saddam Hussein into submission, punishment *did* seem to work against Milosevic in this case” (emphasis in original).²⁷ Denial seemed effective and appropriate in the Gulf War and Deliberate Force, but the war in Kosovo suggested the need for other coercive methods. In short, denial may not be the “one-size-fits-all” coercive method that Pape envisioned.

The final lesson from the Kosovo conflict is that stumbling through an air campaign without the guidance of a clear, coherent strategy invites disaster. The air war over Serbia by no means unfolded in accordance with a well-orchestrated plan based on any such concept. On the contrary, it evolved haphazardly on a daily basis, reacting to the ebb and flow of the international political mood. NATO leaders released and withheld individual targets in response to Serbian actions within Yugoslavia and public opinion within their own countries. Interestingly, though, Allied Force unfolded along lines roughly approximating the coercion pattern prescribed by the hybrid airpower theory—admittedly, more by accident than by design. In very general terms, denial ran throughout with a size-

able increase in decapitation- and punishment-based targets later in the conflict.

Gradualism in Allied Force, however, was more reminiscent of gradual escalation in Johnson's Rolling Thunder campaign than of phased escalation in the coercion hybrid. In Kosovo, there was no semblance of a conscious, calculated "stair-step" approach. On the contrary, representatives from each of the 19 NATO countries could "line-item-veto" individual targets on the air tasking order. In the coercion hybrid, policy makers veto the entire phase until the political context allows for the full application of overwhelming force in a coherent manner. Without this appreciable contextual shift, no shift to the later phases can occur. Unlike the situation in Allied Force and Rolling Thunder, phased escalation optimizes the risk value of future attacks as it maintains an appreciable level of shock, surprise, and simultaneity. Ironically, though, what failed in Vietnam seems to have enjoyed success in Allied Force.

Conclusion

"No plan survives first contact with the enemy," but some plans survive better than others.²⁸ Ultimately, the meandering path NATO stumbled upon in the Balkans was the only approach compatible with the politically restrained nature of the air war over Serbia. Unfortunately, the planning and execution of Allied Force clearly revealed that airmen had no coherent, conceptually sound strategy for the politically restrained, incremental nature of the Kosovo conflict. When policy makers rejected airpower's traditional "all-or-nothing" approach, military planners had nothing to fall back on as an alternative. Ironically, had they looked past their favorable memories of Desert Storm, they may have seen in Deliberate Force a more appropriate model for yet another politically sensitive air war in the Balkans. Likewise, future air strategists may look to the hybrid theory of coercive airpower for such a viable option in the post-Cold War conflicts of the twenty-first century.

Notes

1. John A. Warden III, *The Air Campaign: Planning for Combat* (San Jose, Calif.: toExcel, 1998), 150-53.

2. Robert A. Pape, "The Air Force Strikes Back: A Reply to Watts and Warden," *Security Studies* 7, no. 2 (Winter 1997/98): 213.
3. Benjamin S. Lambeth, *The Transformation of American Air Power*, Cornell Studies in Security Affairs (Ithaca, N.Y.: Cornell University Press, 2000), 147.
4. Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey*, vol. 2, *Operations and Effects and Effectiveness* (Washington, D.C.: Department of the Air Force, 1993), 278–79.
5. Lt Col Ben Harvey, personal notes, subject: Desert Story, 6 August–14 September 1991, Air Force Historical Research Agency (AFHRA), IRIS no. 876218, file no. K239.0472-61, 2, 22.
6. James Chace, "New World Disorder," *New York Review of Books* 45, no. 20 (17 December 1998): 61.
7. Robert H. Scales Jr., *Certain Victory* (Washington, D.C.: Office of the Chief of Staff, US Army, 1993), 358.
8. Pape, 213–14.
9. Lambeth, 117.
10. *Ibid.*, 147.
11. Keaney and Cohen, 96.
12. *Ibid.*
13. Lambeth, 106.
14. Briefing, AIRSOUTH, subject: NATO Air Operations in Bosnia-Herzegovina—Deliberate Force (U), 1 August 1995, AFHRA, Air University Balkans Air Campaign Study, folder B3d-3, IRIS no. 01135134. (NATO Secret) Information extracted is unclassified.
15. Lt Col Mark J. Conversino, "Executing Deliberate Force, 30 August–14 September 1995," in *Deliberate Force: A Case Study in Effective Air Campaigning*, ed. Col Robert C. Owen (Maxwell AFB, Ala.: Air University Press, January 2000), 159.
16. Lambeth, 176.
17. "Deliberate Force Factual Review," vol. 2 (U), AFHRA, Air University Balkans Air Campaign Study, folder B4-3, IRIS no. 01135143, 2–6. (NATO Secret) Information extracted is unclassified.
18. Briefing, Lt Gen Michael D. Ryan, subject: Operation Deliberate Force, US Air Force Corona Conference (U), February 1996. (Secret) Information extracted is unclassified.
19. Conversino, 159.
20. Col Christopher M. Campbell, "The Deliberate Force Air Campaign Plan," in *Deliberate Force: A Case Study in Effective Air Campaigning*, 100.
21. Conversino, 168.
22. Lambeth, 176.
23. Dana Priest, "Tension Grew with Divide over Strategy," *Washington Post*, 21 September 1999, 1.
24. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1976), 606.
25. Stephen T. Hosmer, *Psychological Effects of U.S. Air Operations in Four Wars, 1941–1991: Lessons for U.S. Commanders* (Santa Monica, Calif.: RAND, 1996), xx.
26. John Keegan, "Please, Mr. Blair, Never Take Such a Risk Again," *London Daily Telegraph*, 6 June 1999, 1.
27. Lambeth, 225.

CADRE PAPER

28. This quotation is commonly attributed to Helmuth von Moltke (the elder). See Robert D. Heintz Jr., comp., *Dictionary of Military and Naval Quotations* (Annapolis: United States Naval Institute, 1966), 239.

Chapter 5

Politics, Doctrine, and the Future of American Airpower

The social changes of our time may so transform the whole nature of warfare that the mode of thought of the military professional today will be, at best, inadequate or, at worst, irrelevant. This is the kind of change for which we must today be prepared and able, if necessary, to adjust.

—Michael Howard

Gradualism clearly played an important role in the planning of Deliberate Force and the execution of Allied Force. In fact, top leaders in the US Air Force are beginning to consider seriously the implications of the escalatory nature of post-Cold War conflict. Gen Joseph Ralston, USAF, who replaced General Clark as supreme allied commander, Europe, reveals the growing importance of politics in the post-Cold War era:

US airmen will no doubt continue to maintain that a rapid and massive application of airpower will be more efficient and effective than gradual escalation. I share this belief. Yet, when the political and tactical constraints imposed on air leaders are extensive and pervasive—and that trend seems more, rather than less, likely—then gradualism may be perceived as the only option, and whether or not we like it, a measured and steadily increasing use of airpower against an opponent may be one of the options for future war.¹

General Jumper expands upon this idea by recognizing the need for a new approach to airpower that incorporates the growing likelihood of both gradualism and political restraint:

From the air campaign planning point of view, it is always the neatest and tidiest when you can get a political consensus of the objective of a certain phase, and then go about [achieving] that objective with [the] freedom to act as you see militarily best. . . . [But that] is not the situation we find ourselves in. We can rail against that, but it does no good. It is the politics of the moment that is going to dictate what we are able to do. . . . If the limit of that consensus means gradualism then we are going to have to find a way to deal with a phased-air campaign with gradual escalation. . . . We hope to be able to convince [civilian politicians] that is not the best way to do it, but in some cases we are going to have to live with that situation.²

The new theory of coercive airpower developed in this paper may be one such approach.

Gradualism may not be ideal. In fact, many airmen have argued quite persuasively through the years that gradual escalation is no way to run an air war. Even worse than an incremental campaign, though, is the prospect of being ill prepared for one in the event that the political leadership requires it. Arguably, this occurred during the planning and execution of Allied Force.

In essence, the purpose of Air Force doctrine is to prepare airmen for future conflict by building on past experience, regardless of how unpleasant that experience may have been. Unfortunately, Air Force doctrine past and present has fallen well short of that mark. It currently provides little practical guidance to airmen who will plan and fight tomorrow's post-Cold War conflicts. In short, present service doctrine provides the nation with one and only one way to prosecute an air campaign—the parallel application of overwhelming force to deliver a swift, decisive blow. Any variation amounts to little more than a reluctant, makeshift adjustment on the fly. It prepares airmen quite well to fight their political masters over the right way to prosecute an air war but leaves them empty-handed when forced to fight an adversary in a politically restrained environment.

For example, AFDD 1, *Air Force Basic Doctrine*, informs airmen that “the versatility of air and space power, properly executed in parallel attacks, can attain parallel effects which present the enemy with multiple crises occurring so quickly that there is no way to respond to all or, in some cases, any of them.” It goes on to state that “such a strategy places maximum stress on both enemy defenses *and the enemy society as a whole*” (emphasis added).³ By encouraging airmen to employ such an overtly aggressive strategy, doctrine advocates an approach that is both at odds with the better state of peace and unresponsive to the politics of modern war.

Not only is the officially sanctioned Air Force way of war the antithesis of gradualism, but also the service's doctrine still places strategic attack well above the level of counterland efforts. Caroline Ziemke recognizes the Air Force's doctrinal neglect of denial-based concepts, positing that “by making airpower synonymous with strategic bombing, airpower advocates effectively

excluded some of the most potentially decisive aspects of airpower from their own scale of effectiveness."⁴ In fact, she goes so far as to argue that "strategic bombing is not mere doctrine to the USAF; it is its lifeblood and provides its entire *raison d'être*. Strategic bombing is as central to the identity of the Air Force as the New Testament is to the Catholic Church."⁵

Clearly, today's airmen must reconsider the dogmatic approach of yesterday's airpower doctrine. Jack Snyder warns that "the destabilizing consequences of an inflexible, offensive military strategy are compounded when it is mismatched with a diplomatic strategy based on the assumption that risks can be calculated and controlled through the skillful fine-tuning of threats."⁶ Changes must be made to bridge the gap between the theory of the past and the practice of the present. Richard Hallion accurately assesses that "doctrine must be realistic and, above all, flexible enough to be applied to varying circumstances."⁷ The time has come for airmen to seriously explore other more contemporary and politically palatable approaches to the airpower puzzle. If airpower doctrine is to remain viable, the experience of post-Cold War conflict and the realization of practical lessons by the Air Force's top leadership must make their way into official service texts.

Recommendations

The Air Force should consider some specific and quite appropriate changes in order to align service doctrine with the political realities and practical experience of modern war. First, doctrine must accept the inevitability of political restraint in limited war and the increased likelihood of gradualism in future conflicts of the post-Cold War era. Air Force doctrine writers must reverse their apolitical tendencies and begin to prepare airmen to fight tomorrow's politically restrained wars. Quite simply, the service's one way of prosecuting air campaigns cannot remain incompatible with the policy it aims to serve. Codifying the very real likelihood of severe political limitations on strategic attack and discussing alternative approaches would constitute two steps in the right direction.

Second, Air Force doctrine in the twenty-first century must begin to elevate the importance of one such alternative—the counterland mission. Current service doctrine unabashedly prioritizes its principal war-fighting responsibilities as air superiority first, followed by strategic attack, and, finally, counterland. The service must begin to question the appropriateness of such a hierarchy in the politically restrained, nonprotracted conflicts of the post-Cold War era. More specifically, AFDD 1 currently cites a monumental struggle between the air superiority and counterland missions:

Air and space power is so flexible and useful, there will be many demands that it be diverted to other tasks before any measure of air and space superiority is secured. That is a false economy that ultimately costs more in long term attrition and ineffective sorties. In some situations, the weight of enemy attacks may demand maximum support to friendly surface forces. Nevertheless, attaining the required degree of air and space superiority to enable effective maximum support is an equally critical *competing* demand (emphasis added).⁸

One finds no recognition here or elsewhere that the air component commander can efficiently concentrate available air forces on *both* counterair and counterland as part of the same denial campaign. Because of the elevated importance of air superiority and strategic attack, doctrine seems to miss this point altogether. In fact, the real friction in current doctrine is more accurately between the two competing priorities of air superiority and strategic attack. An approach—such as the coercion hybrid—that places counterair and counterland denial before the more traditional “strategic” application of airpower resolves this tension and aligns doctrinal grammar with the political logic of the twenty-first century.

Current doctrine assumes that the concept of economy of force intuitively prioritizes strategic attack over the counterland mission. In fact, the idea that attacking COGs in the capital is more economical than targeting individual tanks on the battlefield is older than the Air Force itself: “If properly applied, strategic attack is the most efficient means of employing air and space power.”⁹ Interestingly, though, when political limitations severely dilute the synergistic and paralyzing effects of strategic bombing, counterland may become the more economical use of force.¹⁰ In fact, the synergy of counterair

and counterland as one denial effort would arguably make the approach advocated in the coercion hybrid a more efficient use of limited resources than the ambivalent priorities in Air Force doctrine as currently written.¹¹ The theoretical priorities embodied in Air Force doctrine today, then, must be realigned to meet the needs of the post-Cold War era.

Third, in more general terms, Air Force doctrine traditionally has championed the coercive value of strategic attack but still views counterland as little more than support for the decisive ground battle. Doctrine must look beyond this outdated approach and embrace the very real *coercive* potential in the targeting of the enemy's fielded forces.

Fourth, Air Force doctrine has always embraced technology. It must recognize that technology has allowed modern airpower not only to be effective at denial-based coercion, but also equally adept in phased air campaigns. Michael Howard sees the "need for versatility, adaptability and flexibility in the Armed Services so as to absorb technological change" but requires that it "must be extended to absorb political and social change as well."¹² Technology commonly precipitates great change in the tactics of airpower. Such change must also make its way into strategy and service doctrine. For Lambeth, one of the enduring lessons of post-Cold War conflict is the effectiveness of modern aviation technology in denial-based strategies: "American air power showed its ability to achieve strategic effects against fielded enemy ground forces through its enhanced survivability, precision, and lethality. Accordingly, it now has the wherewithal to proceed directly toward strategic goals, at least in many cases, that bypass any compelling need to attack an opponent's urban-industrial assets."¹³ As such, doctrine writers in the Air Force must now recognize that the technology of modern airpower enables what the politics of post-Cold War conflict requires—a shift in emphasis from strategic attack to a counterland effort.

Conclusion

Air Force doctrine still draws upon interwar theories designed around what airpower could do over 60 years ago—

bomb the large, fixed area targets of yesterday's total wars. With the benefit of modern technology, airpower is now far better at accurately attacking small, mobile targets such as fielded forces. Now that airpower *can* do both, the question turns to what it *should* do. Interestingly, many of the economic- and civil-infrastructure targets politically permissible in yesterday's total wars are politically unpalatable in today's more limited conflicts. Similarly, the technologically constrained military targets of the past are the very targets allowed by civilian leaders of the present time.

The time is ripe for an airpower approach that is better aligned with the technological capabilities and political limitations of the aerial weapon. In the foreword to AFDD 1, Gen Michael Ryan, former Air Force chief of staff, writes that "these warfighting concepts describe the essence of air and space power and provide the airman's perspective. As airmen, we must understand these ideas, we must cultivate them and, importantly, we must debate and refine these ideas for the future."¹⁴ The theory of coercive airpower for post-Cold War conflict may provide a template for such change.

The new approach advocated in this study emerged from existing theories of coercive airpower based upon the firm foundation of America's experience in limited war. It has roots in both theory and practice. As a consequence, it is quite responsive to the defining attributes of conflict in the post-Cold War era. Regrettably, yesterday's Cold War concepts and assumptions about total war remain largely unresponsive to today's limited wars. Aligning airpower theory and Air Force doctrine with the realities of the post-Cold War era will prepare tomorrow's airmen for the conflicts that likely await the United States in the twenty-first century.

Notes

1. Quoted in John T. Correll, "The Use of Force," *Air Force Magazine*, December 1999, 39. General Ralston's quotation was very carefully crafted from a passage in an article by Col Phillip S. Meilinger ("Gradual Escalation," *Armed Forces Journal International*, October 1999, 18):

Airmen will, no doubt, continue to maintain that a rapid and massive application of air force will be more efficient and effective than gradual escalation. They are probably correct. Yet when the political and tactical constraints imposed on air leaders are extensive and pervasive—and that trend seems more rather than less likely—then gradual escalation will be

more appealing. . . . A measured and steadily increasing use of airpower against an enemy, which gives him ample opportunity to assess his situation and come to terms, combined with a remarkably low casualty rate for both ourselves and the enemy's civilian populace, may be the future of war.

The similarities and the differences of these two quotations are quite intriguing.

2. Quoted in James A. Kitfield, "Another Look at the Air War That Was," *Air Force Magazine*, October 1999, 42.

3. Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine*, September 1997, 24.

4. Caroline F. Ziemke, "A New Covenant? The Apostles of Douhet and the Persian Gulf War," in *The Eagle in the Desert: Looking Back on U.S. Involvement in the Persian Gulf War*, ed. William Head and Earl H. Tilford Jr. (Westport, Conn.: Praeger, 1996), 306.

5. Caroline F. Ziemke, "Promises Fulfilled? The Prophets of Air Power and Desert Storm," lecture, Washington Strategy Seminar on Air Power and the New Security Environment, Washington, D.C., January 1992, 16-19.

6. Jack Snyder, "Civil Military Relations and the Cult of the Offensive, 1914 and 1984," *International Security* 9, no. 1 (Summer 1984): 129.

7. Richard Hallion, ed., *Airpower Confronts an Unstable World* (Washington, D.C.: Brassey's, 1997), 11.

8. AFDD 1, 29.

9. *Ibid.*, 52.

10. Parenthetically, it is interesting to note that the coercion hybrid is more in line with the Air Force's own "New View of Conflict" (AFDD 1, 42) than is current Air Force doctrine. Phase one corresponds quite nicely with the halt phase, adding the important coercive ingredient of denial. The later phases allow airpower to "gain and expand the strategic initiative" as America deploys and builds up ground forces for the ground offensive.

11. See AFDD 1's discussion of the principle of economy of force for further illumination of this point (18).

12. Michael Howard, "Military Science in an Age of Peace," *Journal of the United Services Institute for Defence Studies* 119 (March 1974): 6.

13. Benjamin S. Lambeth, *The Transformation of American Air Power*, Cornell Studies in Security Affairs (Ithaca, N.Y.: Cornell University Press, 2000), 268.

14. AFDD 1, [i].

Bibliography

Books

- Builder, Carl H. *The Masks of War: American Military Styles in Strategy and Analysis*. Baltimore: Johns Hopkins University Press, 1989.
- Clausewitz, Carl von. *On War*. Edited and translated by Michael Howard and Peter Paret. Princeton, N.J.: Princeton University Press, 1976.
- Clodfelter, Mark. *The Limits of Air Power: The American Bombing of North Vietnam*. New York: Free Press, 1989.
- Corum, James S. *The Luftwaffe: Creating the Operational Air War, 1918–1940*. Lawrence, Kans.: University Press of Kansas, 1997.
- Crane, Conrad C. *American Airpower Strategy in Korea, 1950–1953*. Lawrence, Kans.: University Press of Kansas, 2000.
- . *Bombs, Cities, and Civilians: American Airpower Strategy in World War II*. Lawrence, Kans.: University Press of Kansas, 1993.
- Douhet, Giulio. *The Command of the Air*. Translated by Dino Ferrari. 1942. Reprint, Washington, D.C.: Office of Air Force History, 1983.
- Ehrhard, Maj Thomas P. *Making the Connection: An Air Strategy Analysis Framework*. Maxwell AFB, Ala.: Air University Press, April 1996.
- Fuller, J. F. C. *Foundation of the Science of War*. London: Hutchinson and Company, 1926.
- Futrell, Robert Frank. *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force*. Vol. 1, 1907–1960. Maxwell AFB, Ala.: Air University Press, December 1989.
- George, Alexander L., and William E. Simons, eds. *The Limits of Coercive Diplomacy*. 2d ed. Boulder, Colo.: Westview, 1994.
- Gordon, Michael R., and Bernard E. Trainor. *The Generals' War: The Inside Story of the Conflict in the Gulf*. New York: Little, Brown and Company, 1995.

-
- Hallion, Richard, ed. *Airpower Confronts an Unstable World*. Washington, D.C.: Brassey's, 1997.
- Hosmer, Stephen T. *Psychological Effects of U.S. Air Operations in Four Wars, 1941-1991: Lessons for U.S. Commanders*. Santa Monica, Calif.: RAND, 1996.
- Keaney, Thomas A., and Eliot A. Cohen. *Gulf War Air Power Survey*. Vol. 2, *Operations and Effects and Effectiveness*. Washington, D.C.: Department of the Air Force, 1993.
- . *Gulf War Air Power Survey Summary Report*. Washington, D.C.: US Government Printing Office, 1993.
- Knorr, Klaus. *The Power of Nations: The Political Economy of International Relations*. New York: Basic Books, 1975.
- Lambeth, Benjamin S. *The Transformation of American Air Power*. Cornell Studies in Security Affairs. Ithaca, N.Y.: Cornell University Press, 2000.
- Liddell Hart, B. H. *Strategy*. New York: Praeger Publishers, Inc., 1967.
- Lupton, Lt Col David E. *On Space Warfare: A Space Power Doctrine*. Maxwell AFB, Ala.: Air University Press, 1988.
- Mann, Col Edward C. *Thunder and Lightning: Desert Storm and the Airpower Debates*. Maxwell AFB, Ala.: Air University Press, April 1995.
- Mao Tse-tung. *Six Essays on Military Affairs*. Peking: Foreign Languages Press, 1972.
- Mearsheimer, John J. *Conventional Deterrence*. Ithaca, N.Y.: Cornell University Press, 1983.
- Meilinger, Col Phillip S. *The Paths of Heaven: The Evolution of Airpower Theory*. Maxwell AFB, Ala.: Air University Press, 1997.
- Moody, Walton S. *Building a Strategic Air Force*. Washington, D.C.: US Government Printing Office, 1995.
- Overy, R. J. *The Air War, 1939-1945*. New York: Stein and Day Publishers, 1980.
- Owen, Col Robert C. *Deliberate Force: A Case Study in Effective Air Campaigning*. Maxwell AFB, Ala.: Air University Press, 2000.
- Pape, Robert A. *Bombing to Win: Air Power and Coercion in War*. Cornell Studies in Security Affairs. Ithaca, N.Y.: Cornell University Press, 1996.

- Reynolds, Col Richard T. *Heart of the Storm: The Genesis of the Air Campaign against Iraq*. Maxwell AFB, Ala.: Air University Press, January 1995.
- Scales, Robert H., Jr. *Certain Victory*. Washington, D.C.: Office of the Chief of Staff, US Army, 1993.
- Schelling, Thomas C. *Arms and Influence*. New Haven, Conn.: Yale University Press, 1966.
- Slessor, Wing Comdr J. C. *Air Power and Armies*. London: Oxford University Press, 1936.
- Thompson, Wayne. *To Hanoi and Back: The U.S. Air Force and North Vietnam, 1966-1973*. Washington, D.C.: Smithsonian Institution Press, 2000.
- Tilford, Earl H. *Setup: What the Air Force Did in Vietnam and Why*. Maxwell AFB, Ala.: Air University Press, 1991.
- The United States Strategic Bombing Surveys*. Maxwell AFB, Ala.: Air University Press, October 1987.
- Warden, John A., III. *The Air Campaign: Planning for Combat*. San Jose, Calif.: toExcel, 1998.
- Wylie, J. C. *Military Strategy: A General Theory of Power Control*. Classics of Sea Power. 1967. Reprint, Annapolis: Naval Institute Press, 1989.

Articles

- Arnold, Brig Gen Henry H. "Air Lessons from Current Wars." *US Air Services*, May 1938, 17.
- Aubin, Stephen P. "Operation Allied Force: War or 'Coercive Diplomacy?'" *Strategic Review* 27, no. 3 (Summer 1999): 4-12.
- Baker, Leonard, and B. F. Cooling. "Developments and Lessons before World War II." In *Case Studies in the Achievement of Air Superiority*. Edited by Benjamin Franklin Cooling. Washington, D.C.: US Government Printing Office, 1998.
- Barnes, Frederick. "Washington Looks at Kosovo's Lessons." *Defense and Foreign Affairs Strategic Policy* 27, no. 7 (1999): 13-14.
- Byman, Daniel L., and Matthew C. Waxman. "Defeating U.S. Coercion." *Survival* 41, no. 2 (Summer 1999): 107-20.

- Campbell, Col Christopher M. "The Deliberate Force Air Campaign Plan." In *Deliberate Force: A Case Study in Effective Air Campaigning*. Edited by Col Robert C. Owen. Maxwell AFB, Ala.: Air University Press, January 2000.
- Chace, James. "New World Disorder." *New York Review of Books* 45, no. 20 (17 December 1998): 58-63.
- Conversino, Lt Col Mark J. "The Changed Nature of Strategic Air Attack." *Parameters*, Winter 1997-1998, 28-41.
- . "Executing Deliberate Force, 30 August-14 September 1995." In *Deliberate Force: A Case Study in Effective Air Campaigning*. Edited by Col Robert C. Owen. Maxwell AFB, Ala.: Air University Press, January 2000.
- Correll, John T. "The Use of Force." *Air Force Magazine*, December 1999, 37-39.
- Davis, Paul K. "Planning under Uncertainty Then and Now: Paradigms Lost and Paradigms Emerging." In *New Challenges for Defense Planning*. Edited by Paul K. Davis. RAND Report MR-400-RC. Santa Monica, Calif.: RAND, 1994.
- Dudney, Robert S. "Verbatim." *Air Force Magazine*, December 1999, 58.
- Faber, Lt Col Peter R. "Interwar US Army Aviation and the Air Corps Tactical School: Incubators of American Airpower." In *The Paths of Heaven: The Evolution of Airpower Theory*. Edited by Col Phillip S. Meilinger. Maxwell AFB, Ala.: Air University Press, 1997.
- Higham, Robin. "The Royal Air Force and the Battle of Britain." In *Case Studies in the Achievement of Air Superiority*. Edited by Benjamin Franklin Cooling. Washington, D.C.: Office of Air Force History, 1994.
- Hone, Thomas C. "Southeast Asia." In *Case Studies in the Achievement of Air Superiority*. Edited by Benjamin Franklin Cooling. Washington, D.C.: Office of Air Force History, 1994.
- Howard, Michael. "Military Science in an Age of Peace." *Journal of the United Services Institute for Defence Studies* 119 (March 1974): 3-11.
- . "Strategy and Policy in Twentieth-Century Warfare." In *The Harmon Memorial Lectures in Military History*,

1959–1987: A Collection of the First Thirty Harmon Lectures Given at the United States Air Force Academy. Edited by Harry R. Borowski. Washington, D.C.: Office of Air Force History, 1988.

- Jakobsen, Peter V. "The Strategy of Coercive Diplomacy: Refining Existing Theory to Post-Cold War Realities." In *Strategic Coercion: Concepts and Cases*. Edited by Lawrence Freedman. Oxford: Oxford University Press, 1998.
- Keegan, John. "Please, Mr. Blair, Never Take Such a Risk Again." *London Daily Telegraph*, 6 June 1999, 1.
- Kennett, Lee. "Developments to 1939." In *Case Studies in the Development of Close Air Support*. Edited by Benjamin Franklin Cooling. Washington, D.C.: US Government Printing Office, 1990.
- Khalizad, Zalmay, and David Ochmanek. "Rethinking US Defence Planning." *Survival* 39, no. 1 (Spring 1997): 43–64.
- Kitfield, James A. "Another Look at the Air War That Was." *Air Force Magazine*, October 1999, 39–43.
- Luttwak, Edward N. "A Post-Heroic Military Policy." *Foreign Affairs* 75, no. 4 (July/August 1996): 33–44.
- MacIsaac, David. "Voices from the Central Blue: The Air Power Theorists." In *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*. Princeton, N.J.: Princeton University Press, 1986.
- Meilinger, Col Phillip S. "Gradual Escalation." *Armed Forces Journal International*, October 1999, 18.
- . "Ten Propositions Regarding Airpower." *Airpower Journal* 10, no. 1 (Spring 1996): 50, 52–72.
- Mueller, Karl. "Denial, Punishment, and the Future of Air Power." *Security Studies* 7, no. 3 (Spring 1998): 182–228.
- Pape, Robert A. "The Air Force Strikes Back: A Reply to Watts and Warden." *Security Studies* 7, no. 2 (Winter 1997/1998): 191–214.
- Priest, Dana. "Tension Grew with Divide over Strategy." *Washington Post*, 21 September 1999, 1.
- Rowell, Ross. "Aircraft in Bush Warfare." *Marine Corps Gazette*, September 1929, 180–203.

-
- Shy, John, and Thomas W. Collier. "Revolutionary War." In *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*. Princeton, N.J.: Princeton University Press, 1986.
- Snyder, Jack. "Civil Military Relations and the Cult of the Offensive, 1914 and 1984." *International Security* 9, no. 1 (Summer 1984): 108-46.
- "Tactical Bombing of Iraqi Forces Outstripped Value of Strategic Hits, Analyst Contends." *Aviation Week and Space Technology* 136, no. 4 (27 January 1992): 62-63.
- "Verbatim Special: The Balkan War." *Air Force Magazine*, June 1999, 47-51.
- "Verbatim Special: The Balkan War." *Air Force Magazine*, July 1999, 42-44.
- Warden, Col John A., III. "The Enemy as a System." *Airpower Journal* 9, no. 1 (Spring 1995): 41-55.
- . "Success in Modern War: A Reply to Robert Pape's *Bombing to Win*." *Security Studies* 7, no. 2 (Winter 1997/1998): 172-90.
- Whiting, Kenneth R. "Soviet Air-Ground Coordination, 1941-1945." In *Case Studies in the Development of Close Air Support*. Edited by Benjamin Franklin Cooling. Washington, D.C.: US Government Printing Office, 1990.
- Winton, Harold R. "An Ambivalent Partnership: US Army and Air Force Perspectives on Air-Ground Operations, 1973-90." In *The Paths of Heaven: The Evolution of Airpower Theory*. Edited by Col Phillip S. Meilinger. Maxwell AFB, Ala.: Air University Press, 1997.
- Ziemke, Caroline F. "A New Covenant? The Apostles of Douhet and the Persian Gulf War." In *The Eagle in the Desert: Looking Back on U.S. Involvement in the Persian Gulf War*. Edited by William Head and Earl H. Tilford Jr. Westport, Conn.: Praeger, 1996.

Briefings

AIRSOUTH. Subject: NATO Air Operations in Bosnia-Herzegovina—Deliberate Force (U), 1 August 1995. Air Force Historical Research Agency. Air University Balkans

Air Campaign Study. Folder B3d-3. IRIS no. 01135134.
(NATO Secret) Information extracted is unclassified.
Ryan, Lt Gen Michael D. Subject: Operation Deliberate Force.
US Air Force Corona Conference (U), February 1996.
(Secret) Information extracted is unclassified.

Doctrine Documents

Air Force Doctrine Document 1. *Air Force Basic Doctrine*,
September 1997.
Air Force Doctrine Document 2. *Organization and Employment
of Aerospace Power*, 28 September 1998.
Air Force Manual 1-2. *United States Air Force Basic Doctrine*, 1
December 1959.

Internet

Jennings, Kenneth A. "Sandino against the Marines: The Development of Air Power for Conducting Counterinsurgency Operations in Central America." *Air Chronicles*, July-August 1986, 1-13. On-line, 16 February 2001. Available from <http://www.airpower.au.af.mil/airchronicles/aureview/1986/jul-aug/jennings.html>.
"NATO/Federal Republic of Yugoslavia. 'Collateral Damage' or Unlawful Killing? Violations of the Laws of War by NATO during Operation Allied Force." *Amnesty International Report EUR 70/18/00*, June 2000. On-line, 9 June 2000. Available from <http://www.amnesty.org/ailib/aipub/2000/EUR/47001800.html>.

Lectures

Fairchild, Maj Muir S. "The Aim in War." AF-3-L. Air Corps Tactical School, Maxwell Field, Ala., 27 May 1940. Air Force Historical Research Agency. File no. 248.2021A-3.
———. "National Economic Structure." AF-9 and 10-C. Air Corps Tactical School, Maxwell Field, Ala., 5 April 1939. Air Force Historical Research Agency. File no. 248.2021A-7.

-
- . "New York Industrial Area." AF-11-C. Air Corps Tactical School, Maxwell Field, Ala., 6 April 1939. Air Force Historical Research Agency. File no. 248.2020A-11.
- Mueller, Karl. "Coercion and Air Power: A Primer for the Military Strategist." Royal Netherlands Air Force Airpower Colloquium 2000, Netherlands Defence College, Rijswijk, Holland, 6 June 2000.
- Wever, Maj Gen Walter. Opening of the Air Warfare Academy and Air Technical Academy, Berlin, Germany. Air Force Historical Research Agency. File no. K239.716251-31.
- Winton, Harold R. "On Doctrine." School of Advanced Airpower Studies, Maxwell AFB, Ala., 20 September 2000.
- Ziemke, Caroline F. "Promises Fulfilled? The Prophets of Air Power and Desert Storm." Washington Strategy Seminar on Air Power and the New Security Environment, Washington, D.C., January 1992.

Letters

- Eaker, Lt Gen Ira C., commanding general, Mediterranean Allied Air Forces. To Lt Gen Carl Spaatz, commanding general, US Strategic Air Forces. Subject: Operation Clarion, 1 January 1945. Papers of Carl A. Spaatz, Box 20, Manuscript Division, Library of Congress.
- Gilkeson, Lt Col A. H. To commanding general, 3d Wing, GHQ Air Force. Subject: Endorsement to Commanding General, 2d Wing, GHQ Air Force, 14 March 1936. Air Force Historical Research Agency. File no. 248.126-4.
- Harmon, Lt Col M. F., and Maj Oliver Gothlin. To commanding general, 3d Wing, GHQ Air Force. Subject: Comments on Air Corps Tactical Document, 14 March 1936. Air Force Historical Research Agency. File no. 248.126-4.
- Knerr, Col Hugh. To commanding general, 3d Wing, GHQ Air Force, 14 March 1936. Air Force Historical Research Agency. File no. 248.126-4.

Manuscripts and Memorandums

- Cook, Gen Orvel R. Transcript of Oral History Interview by Hugh Ahmann and Maj Richard Emmons, 4-5 June and

- 6-7 August 1974. Air Force Historical Research Agency. File no. K239.0512-740.
- Daponte, Beth Osborne. "Iraqi Casualties from the Gulf War and Its Aftermath." Cambridge, Mass.: Defense and Arms Control Studies (DACS) Program, Center for International Studies, Massachusetts Institute of Technology, 1992.
- "Deliberate Force Factual Review." Vol. 2 (U). Air Force Historical Research Agency. Air University Balkans Air Campaign Study. Folder B4-3. IRIS no. 01135143. (NATO Secret) Information extracted is unclassified.
- Harvey, Lt Col Ben. Personal Notes. Subject: Desert Story, 6 August-14 September 1991. Air Force Historical Research Agency. IRIS no. 876218. File no. K239.0472-61.
- Johnson, Robert B. "RAND Studies of Air Power in Limited Wars." Special Information Memorandum No. 7. Headquarters, Far East Air Forces, 21 May 1957. Air Force Historical Research Agency. File no. K720.3102-7.
- Westad, Odd Arne, Chen Jian, Stein Tonneson, Nguyen Vu Tung, and James G. Hershberg, eds. "77 Conversations between Chinese and Foreign Leaders on the Wars in Indochina, 1964-1977." Woodrow Wilson International Center for Scholars, Cold War International History Project, Working Paper No. 22, Washington, D.C., May 1998.

The Politics of Coercion
*Toward a Theory of Coercive Airpower
for Post-Cold War Conflict*

Air University Press Team

Chief Editor
Marvin Bassett

Copy Editor
Debra H. Banker

Book Design and Cover Art
Daniel M. Armstrong

*Composition and
Prepress Production*
Mary P. Ferguson